#4 Drwgs
M. Brunson
7/3/01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:	**Robert D. Symonds, et al.**	
Serial No.:		**Art Unit: 2876**
Filed:	**Herewith**	**Patent Examiner: Jared Fureman**
For:	**Financial Transaction Processing System and Method**	

Box Patent Application
Commissioner of Patents and Trademarks
Washington, D.C. 20231

Request to Amend Drawings

Sir:

Applicants request to amend the drawings currently pending in the Application by substituting the twenty nine (29) formal drawing sheets enclosed herewith containing Figures 1-30, for the informal drawing sheets currently pending.

These new formal drawings are identical to the pending drawings in all respects except for shading, line quality and paper size. No new matter will be added as a result of this substitution.

Permission to amend the drawings by substitution is respectfully requested.

Respectfully submitted,

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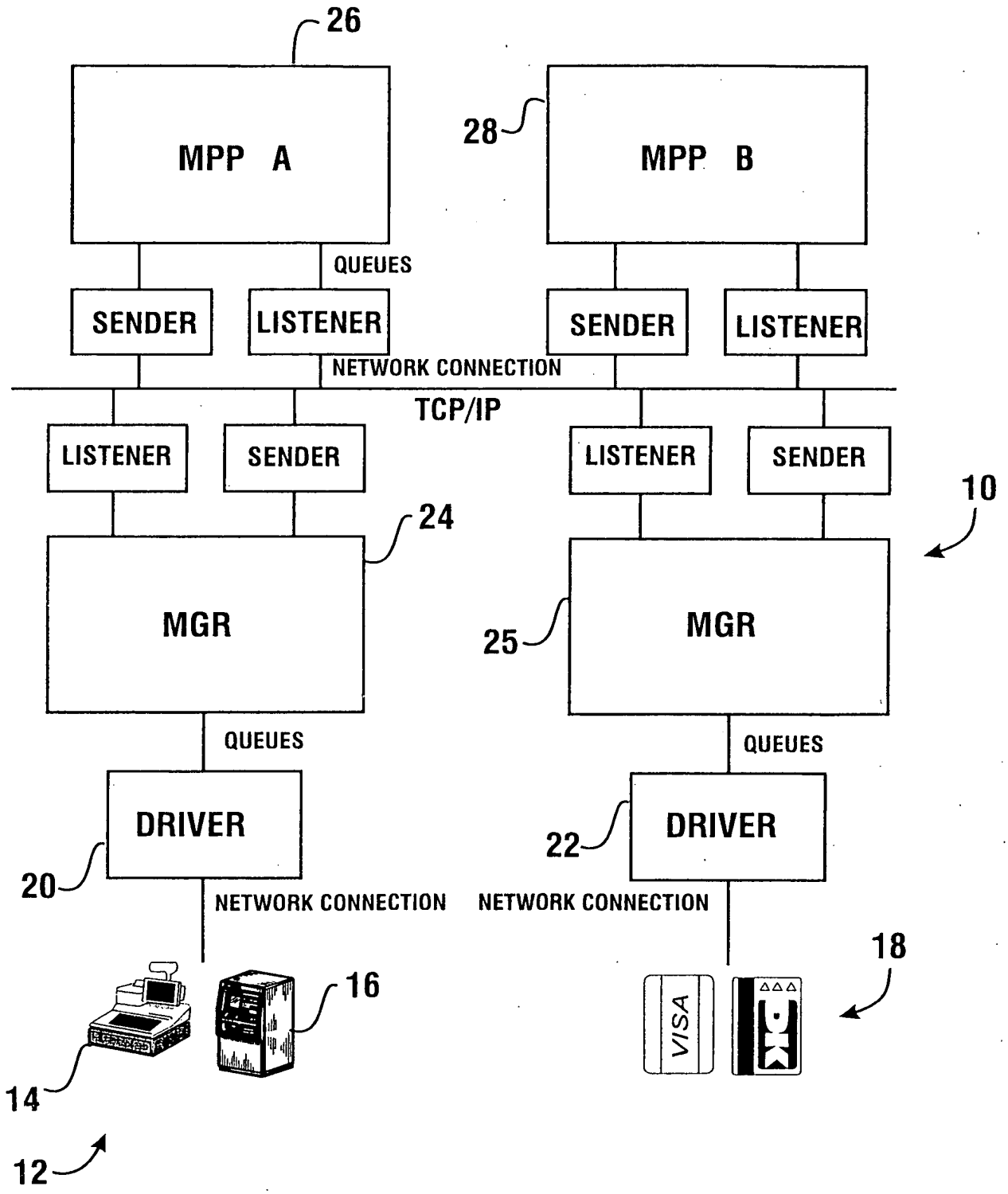

26
MPP A
28
MPP B
QUEUES
SENDER
LISTENER
SENDER
LISTENER
NETWORK CONNECTION
TCP/IP
LISTENER
SENDER
LISTENER
SENDER
10
24
MGR
25
MGR
QUEUES
QUEUES
DRIVER
22
DRIVER
20
NETWORK CONNECTION
NETWORK CONNECTION
18
VISA
16
14
12

FIG. 1

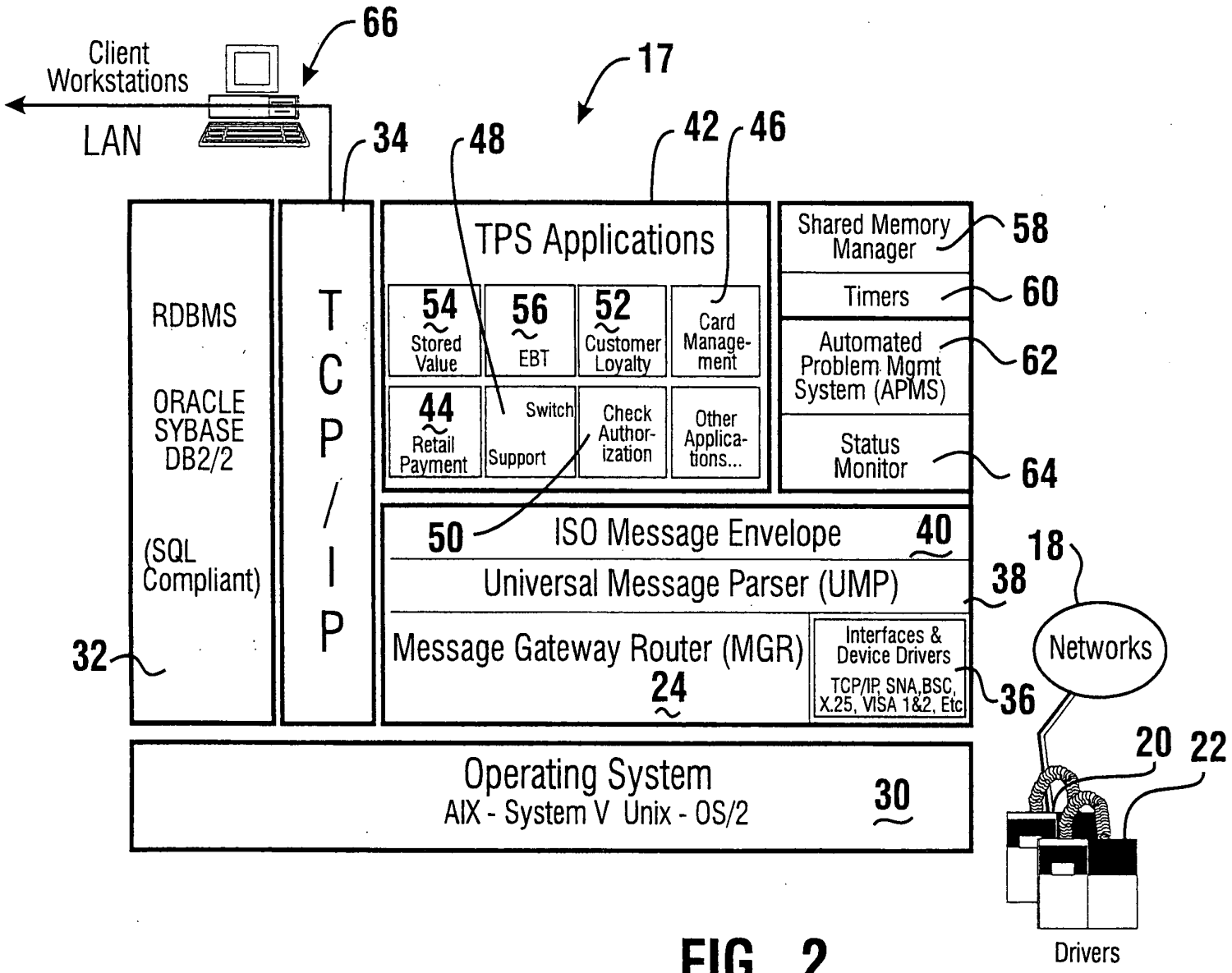


FIG. 2

Standard Message Envelope (SME) Format.

1	Header Sid	Header Layout Version	1
2	Source Node Sid	The message originating node system Id.	6
3	Message Receive System Time	The System time in YYYYMMDDHHMISSmmm format.	17
4	Internal Message Sid	Unique system Id of the received message.	4
5	Service Sid	The Message Processing Program (MPP) service system Id, which can process received message.	4
6	Target Node Sid	The message receiving node system Id	6
7	Data Format Indicator (Source)	Message data format type 0 - External Data Source 1 - Internal Data Source	1
8	Message Direction	The direction of message routing.	1
9	Processing Time	Elapsed message processing time in milliseconds.	5
10	Processing Node Sid	The last processing node system Id	6
11	Target Line Node Sid	Line driver node system id. Assigned when terminal is attached to line group.	6
12	Message Text	The Message text in ISO8583 format	Variable

FIG. 3

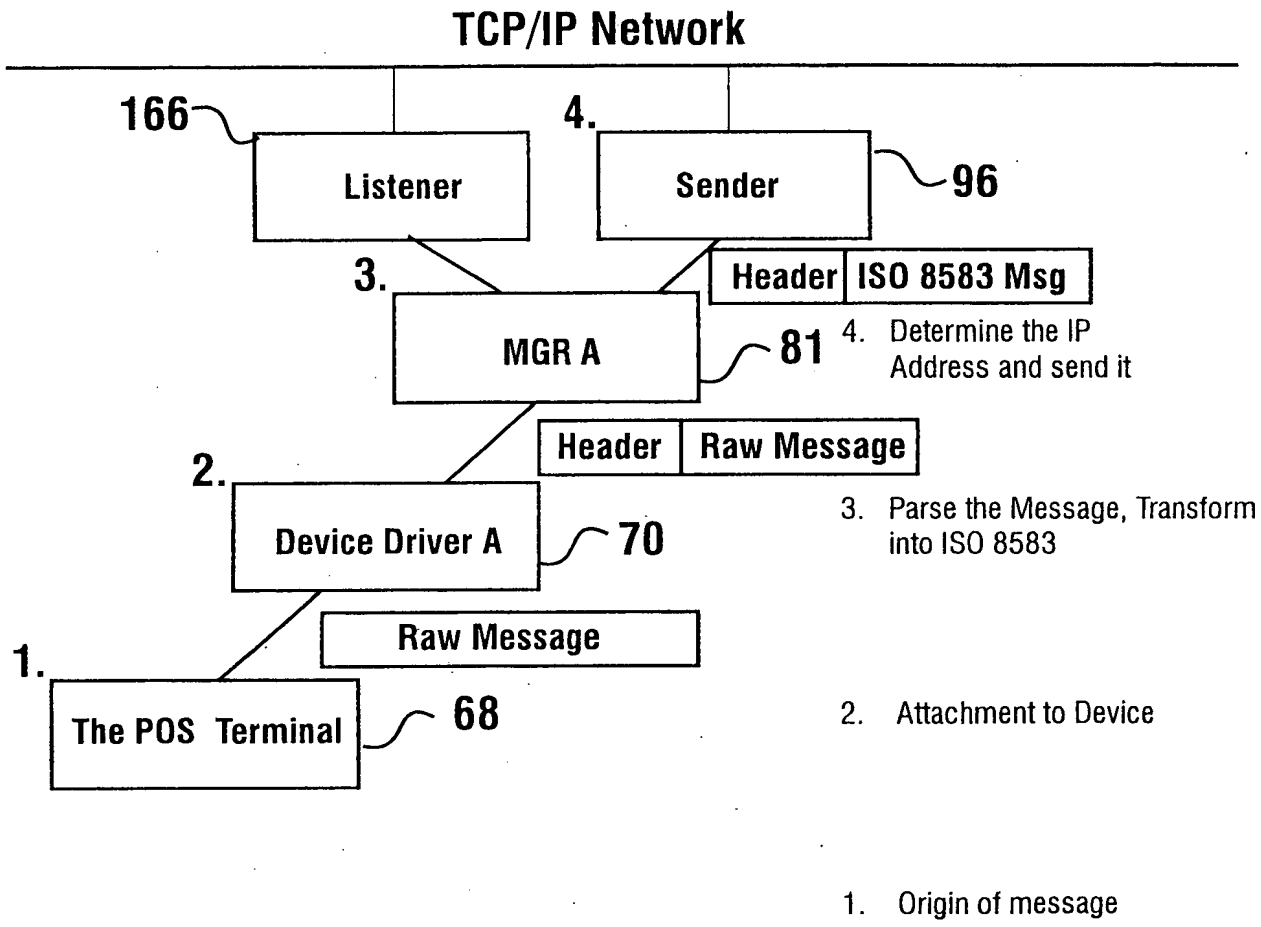
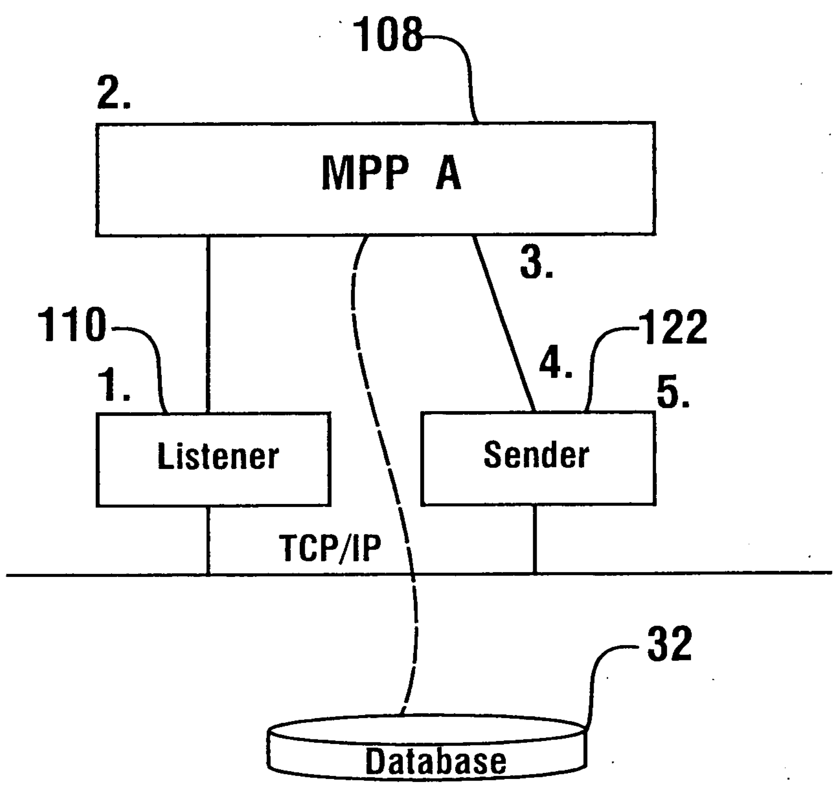

TCP/IP Network
166
Listener
4.
Sender
96
3.
Header
ISO 8583 Msg
MGR A
81
4. Determine the IP Address and send it
Header
Raw Message
2.
Device Driver A
70
3. Parse the Message, Transform into ISO 8583
Raw Message
1.
The POS Terminal
68
2. Attachment to Device
1. Origin of message

FIG. 4



1. The Listener buffers the data, then places the data onto the input queue of the MPP.

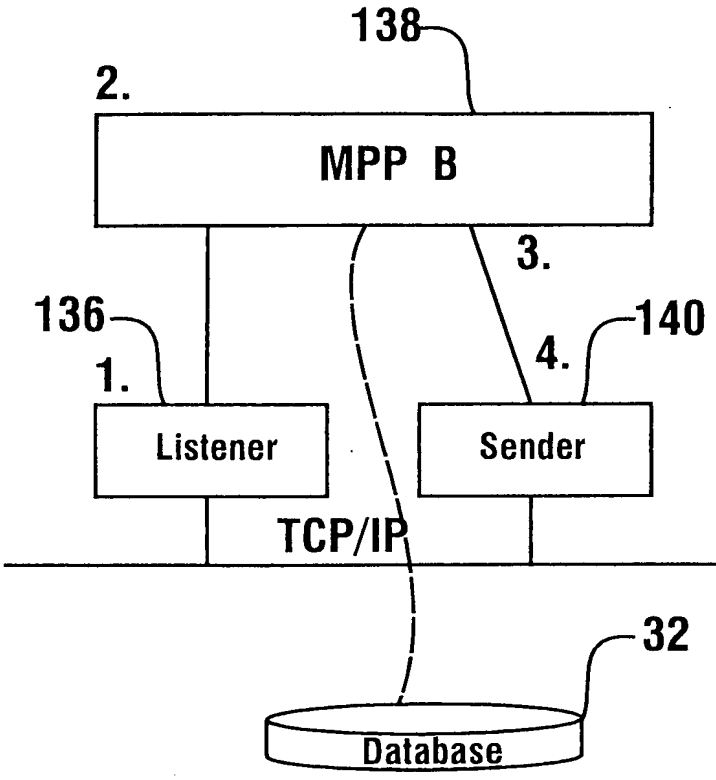
2. The MPP performs various functions based upon the requirements of the message.
   - Builds an internal array.
   - Parses composite fields into subfields of the array.
   - May perform authorization.
   - Determines who to send the message to. May be an MPP or MGR
   - Builds a new message.

3. Sends a copy of the data to the database for archive.

4. Sends the message to the authorization host.

5. The Sender determines the IP address and sends the message.

FIG. 5



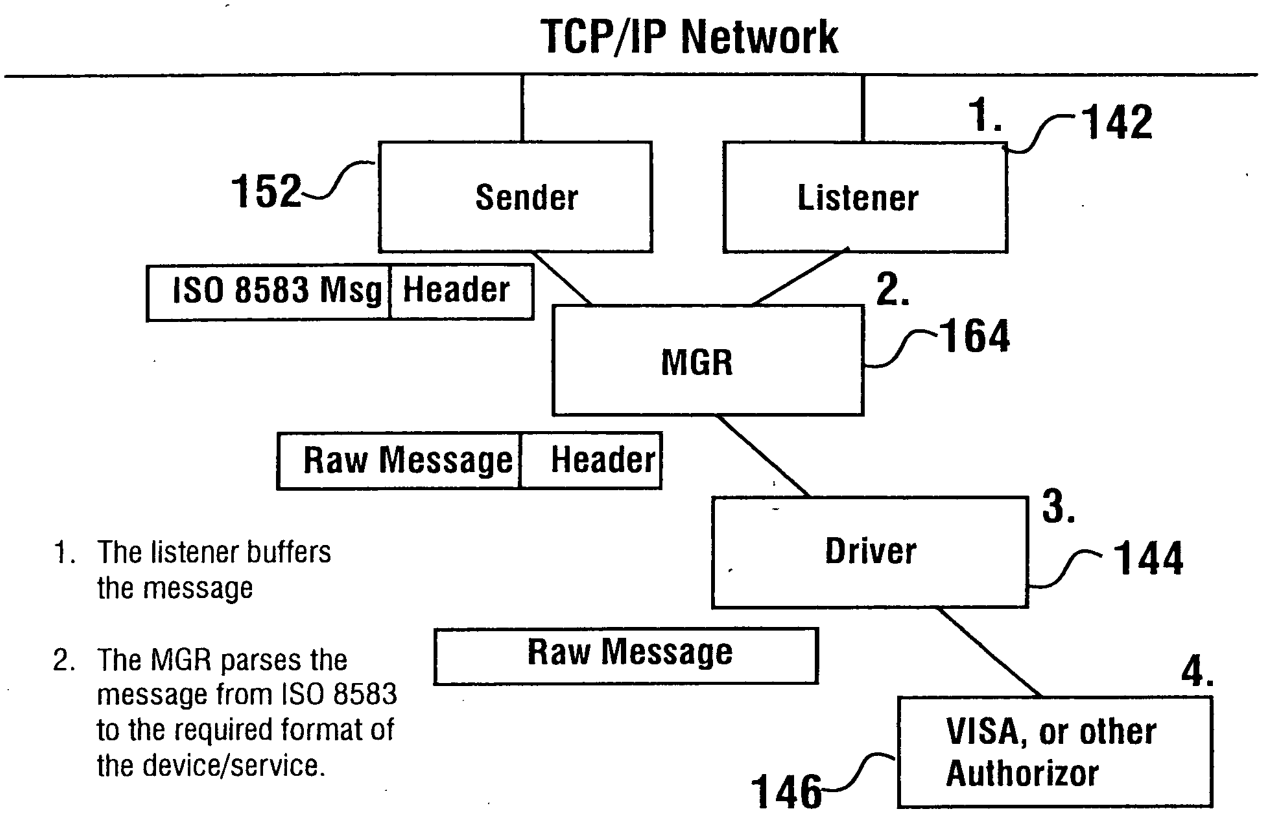
1. The Listener buffers the data, then places the data onto the input queue of the MPP.

2. The MPP performs various functions based upon the requirements of the message.
   - Builds an internal array.
   - Builds any subfields required by the authorization channel.

3. Sends the message to an MPP or MGR.

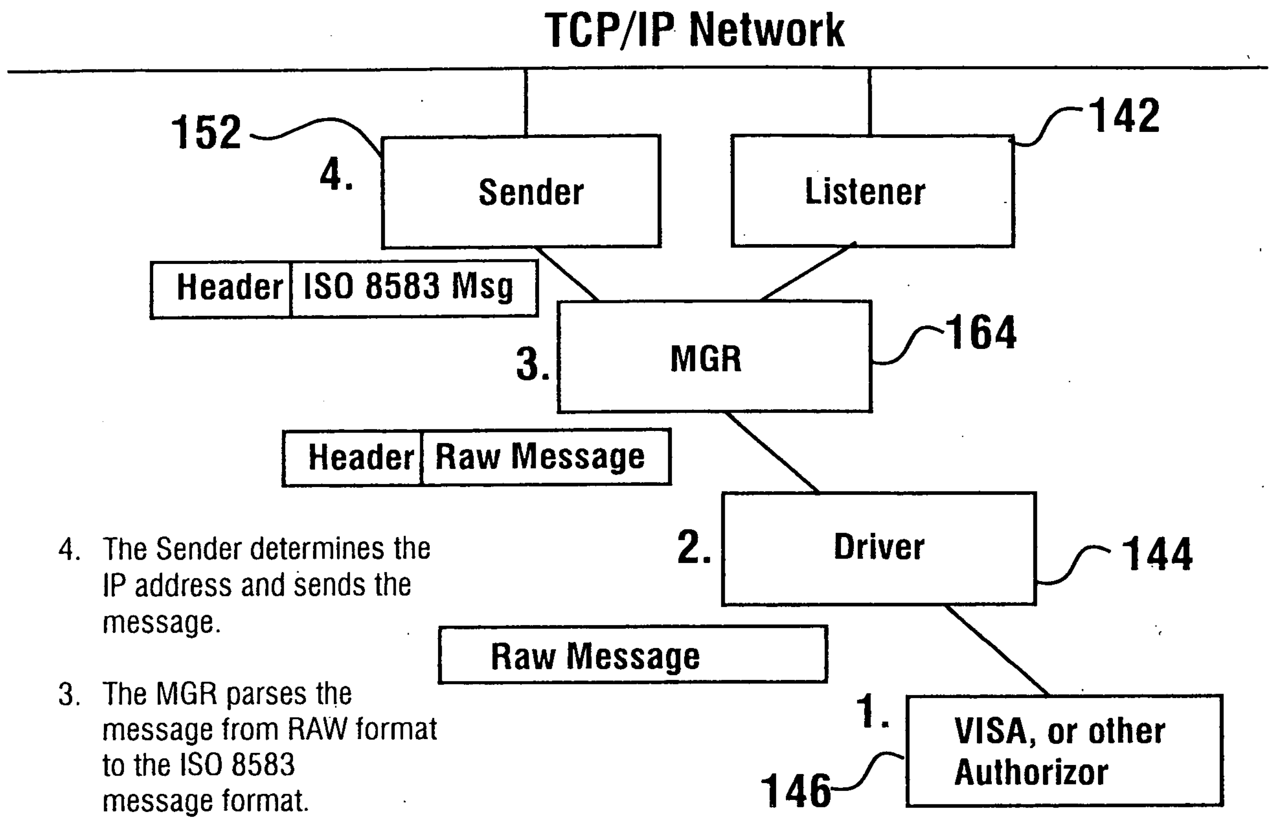
4. The Sender determines the IP address and sends the message.

FIG. 6



1. The listener buffers the message
2. The MGR parses the message from ISO 8583 to the required format of the device/service.
3. The Device Driver removes the header and sends the message to the authorizor.
4. The Authorizor returns either an authorization or a denial for the transaction.

FIG. 7



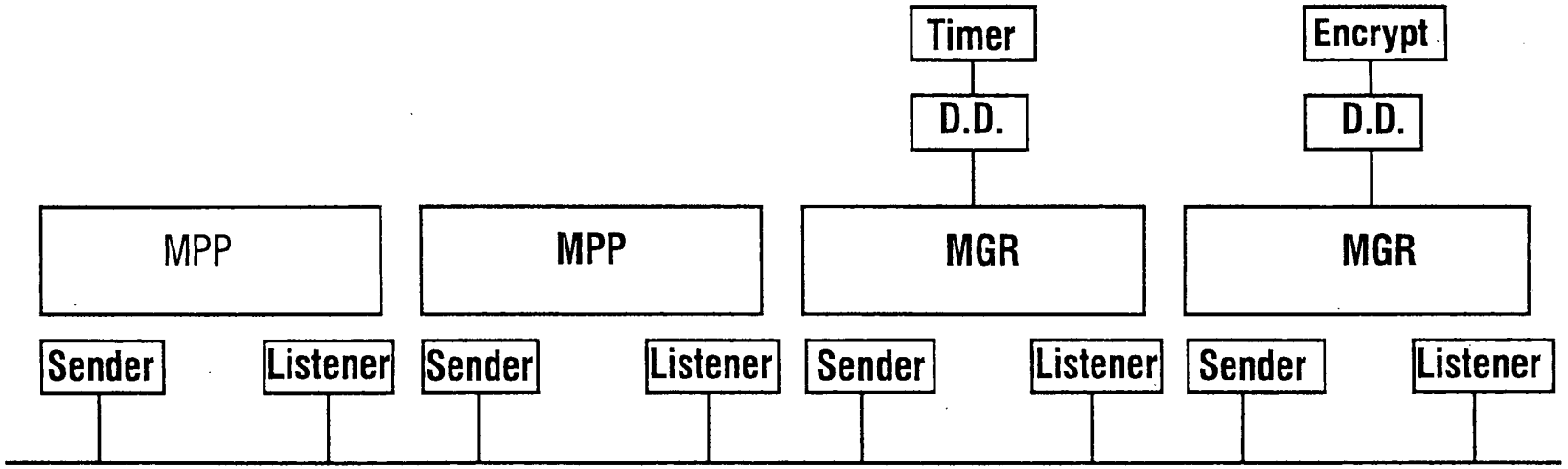
4. The Sender determines the IP address and sends the message.

3. The MGR parses the message from RAW format to the ISO 8583 message format.

2. The device driver add a header and fills some fields after getting the information directly from the network or host.

1. The Authorizor (VISA or other host) returns the message. This represents the actual host/network.

FIG. 8



1. The Message is sent to the second MPP. It uses a echo-back field to determine the orgin of the message. The database contains the original message with a key. It may send the message to the first MPP by calling the Encryption Device for decryption of the PAN.

2. The message is received by the first MPP. It may need to build special fields, such as track II data. It will then send the message back to the original calling device by using the saved data in the database.

FIG. 9

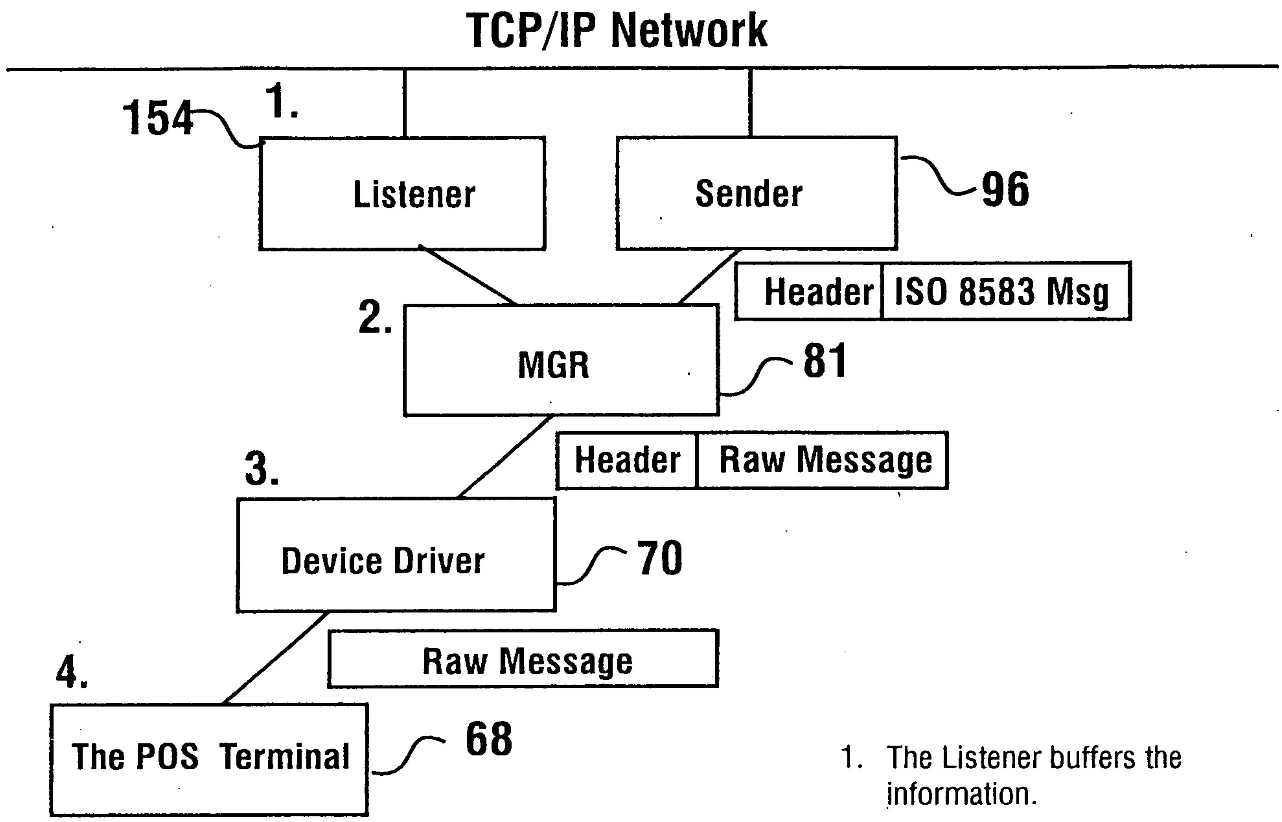


FIG. 10

1. The Listener buffers the information.
2. The MGR parses the ISO 8583 message into a message format that can be used by the device.
3. The Device driver sends the message to the device.
4. The POS terminal returns a message confirming the authorization message.

The message is then returned to the MPP in the same manner as before.

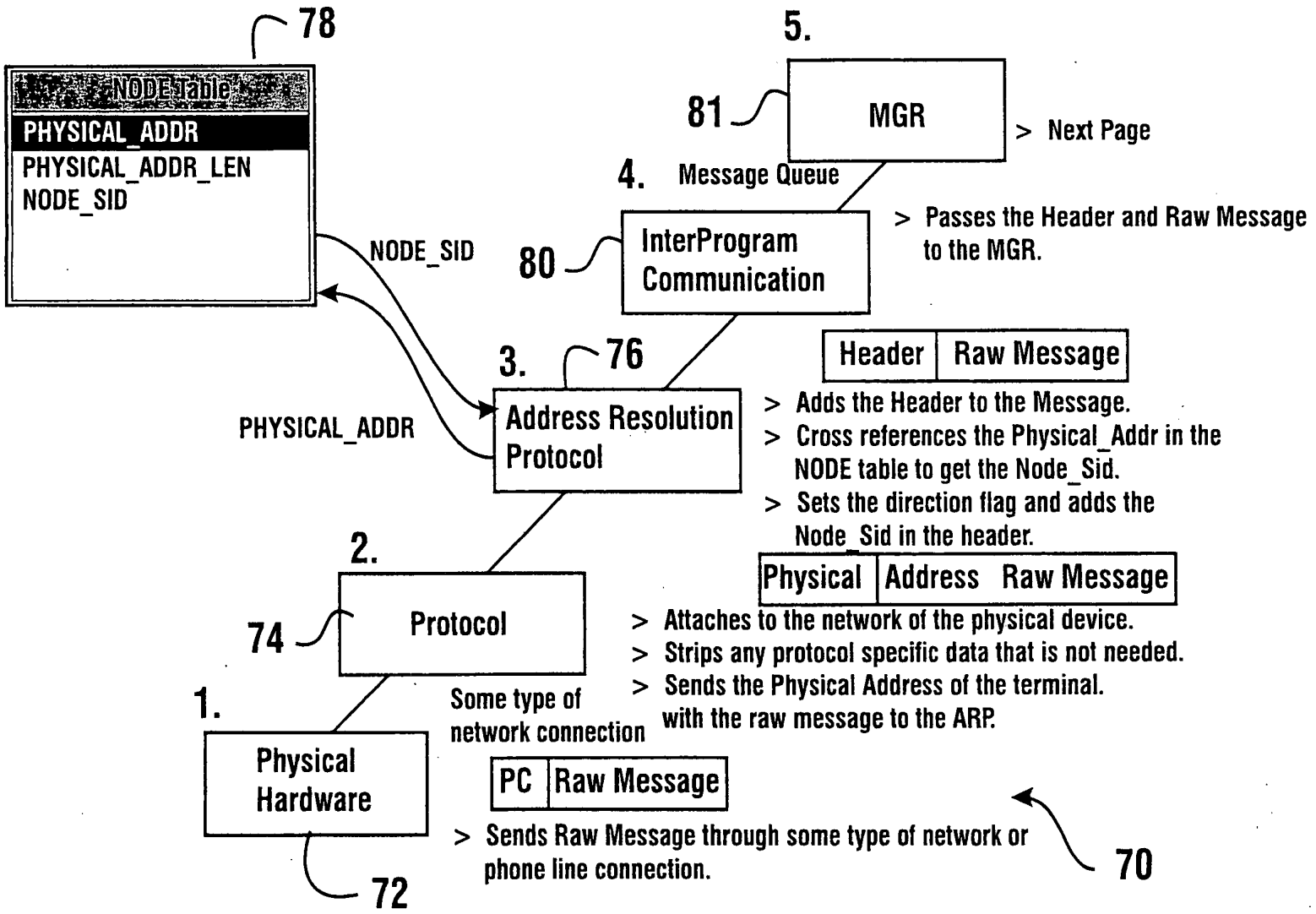

78
NODE Table
PHYSICAL_ADDR
PHYSICAL_ADDR_LEN
NODE_SID
NODE_SID
PHYSICAL_ADDR
5.
81
MGR
> Next Page
4. Message Queue
80
InterProgram Communication
> Passes the Header and Raw Message to the MGR.
3.
76
Address Resolution Protocol
Header | Raw Message
> Adds the Header to the Message.
> Cross references the Physical_Addr in the NODE table to get the Node_Sid.
> Sets the direction flag and adds the Node_Sid in the header.
2.
74
Protocol
Physical | Address | Raw Message
> Attaches to the network of the physical device.
> Strips any protocol specific data that is not needed.
> Sends the Physical Address of the terminal. with the raw message to the ARP.
1.
Physical Hardware
Some type of network connection
PC | Raw Message
> Sends Raw Message through some type of network or phone line connection.
72
70

FIG. 11

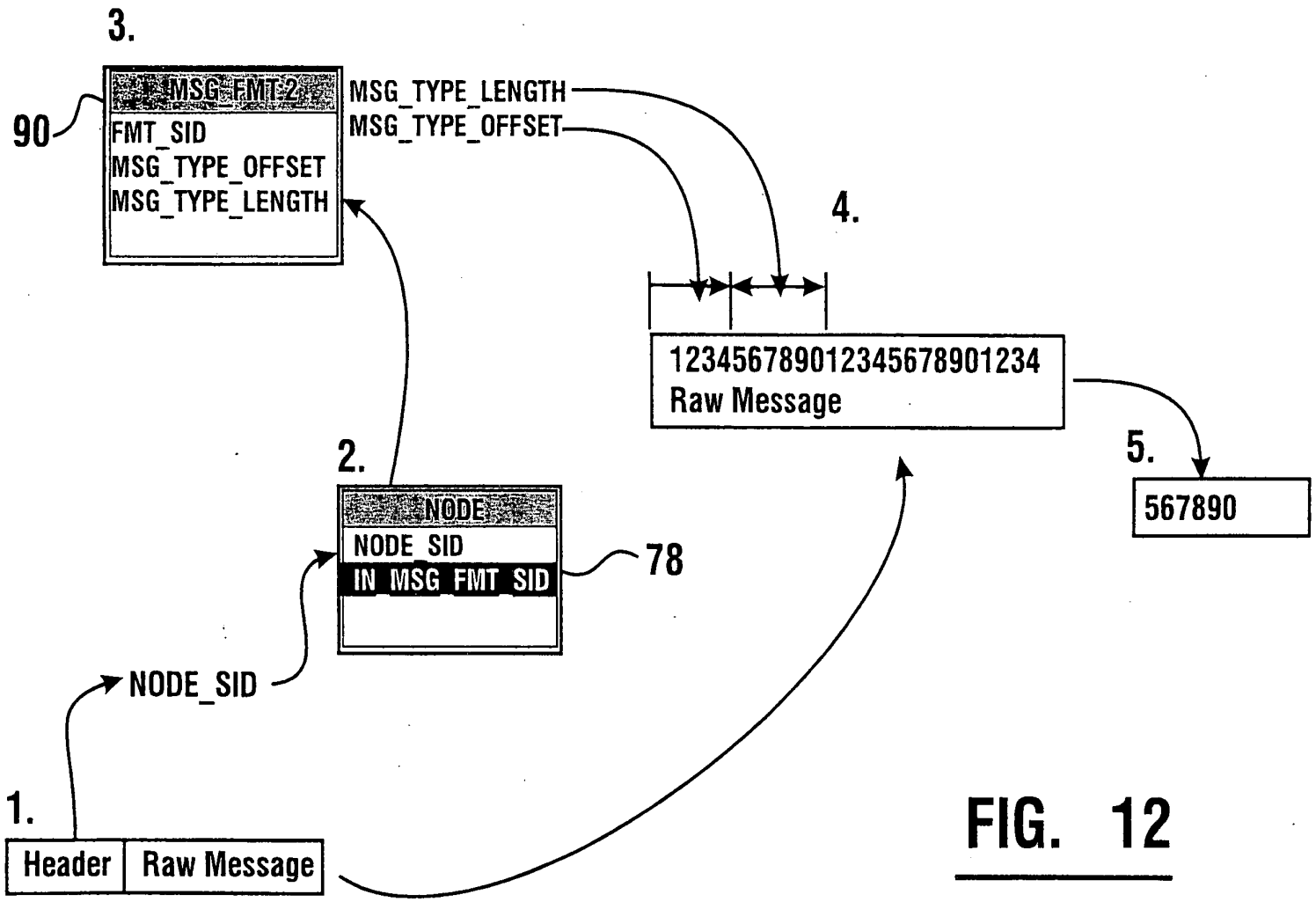

3.
MSG_FMT 2
FMT_SID
MSG_TYPE_OFFSET
MSG_TYPE_LENGTH
90
MSG_TYPE_LENGTH
MSG_TYPE_OFFSET
4.
12345678901234567890123 4
Raw Message
5.
567890
2.
NODE
NODE_SID
IN_MSG_FMT_SID
78
NODE_SID
1.
Header
Raw Message

FIG. 12

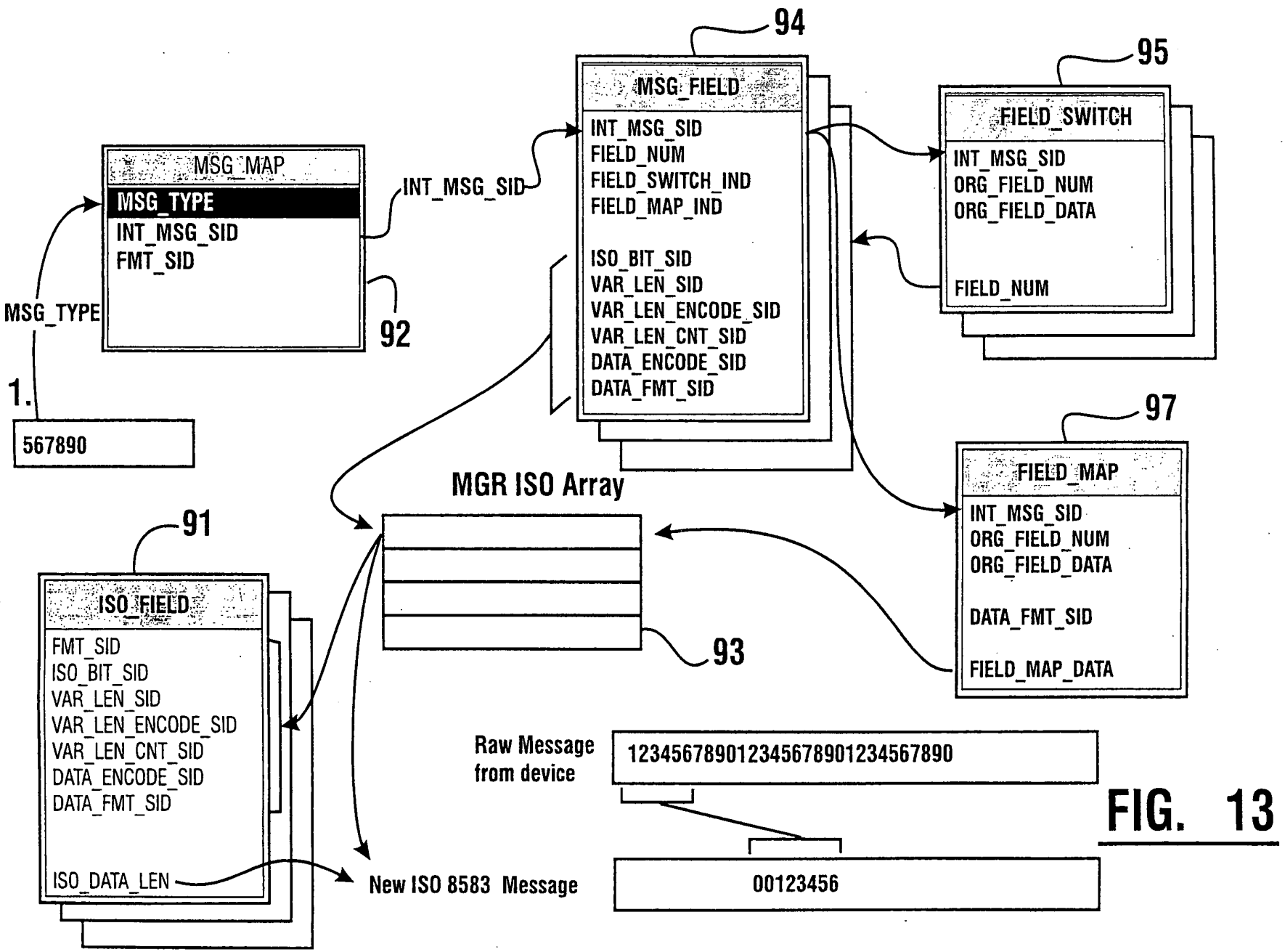


FIG. 13

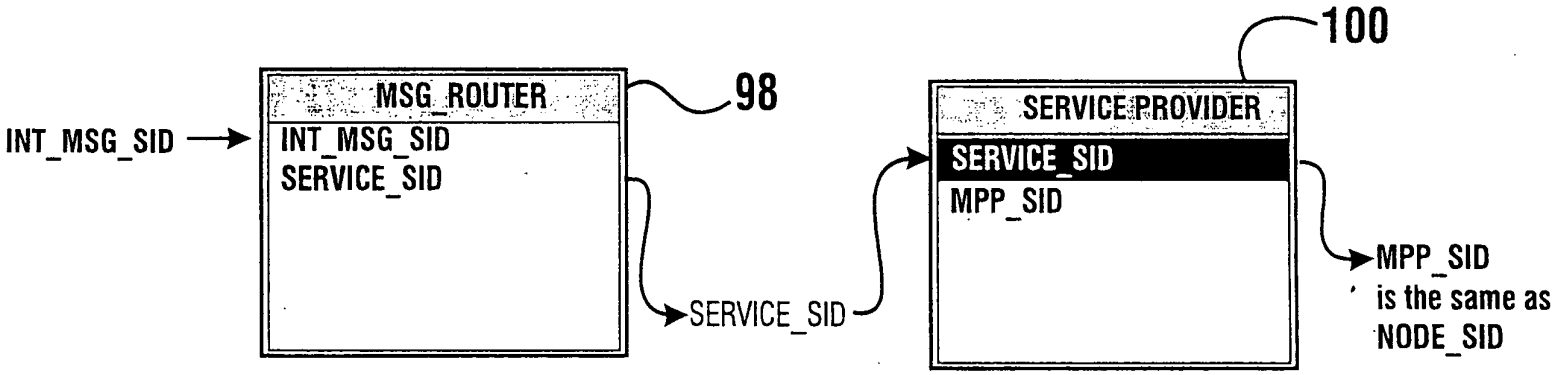


FIG. 14

If the chosen Provider is not available at the time of the TCP/IP call. This table is used to determine if there is another service provider. Hot spare - fault tolerance.

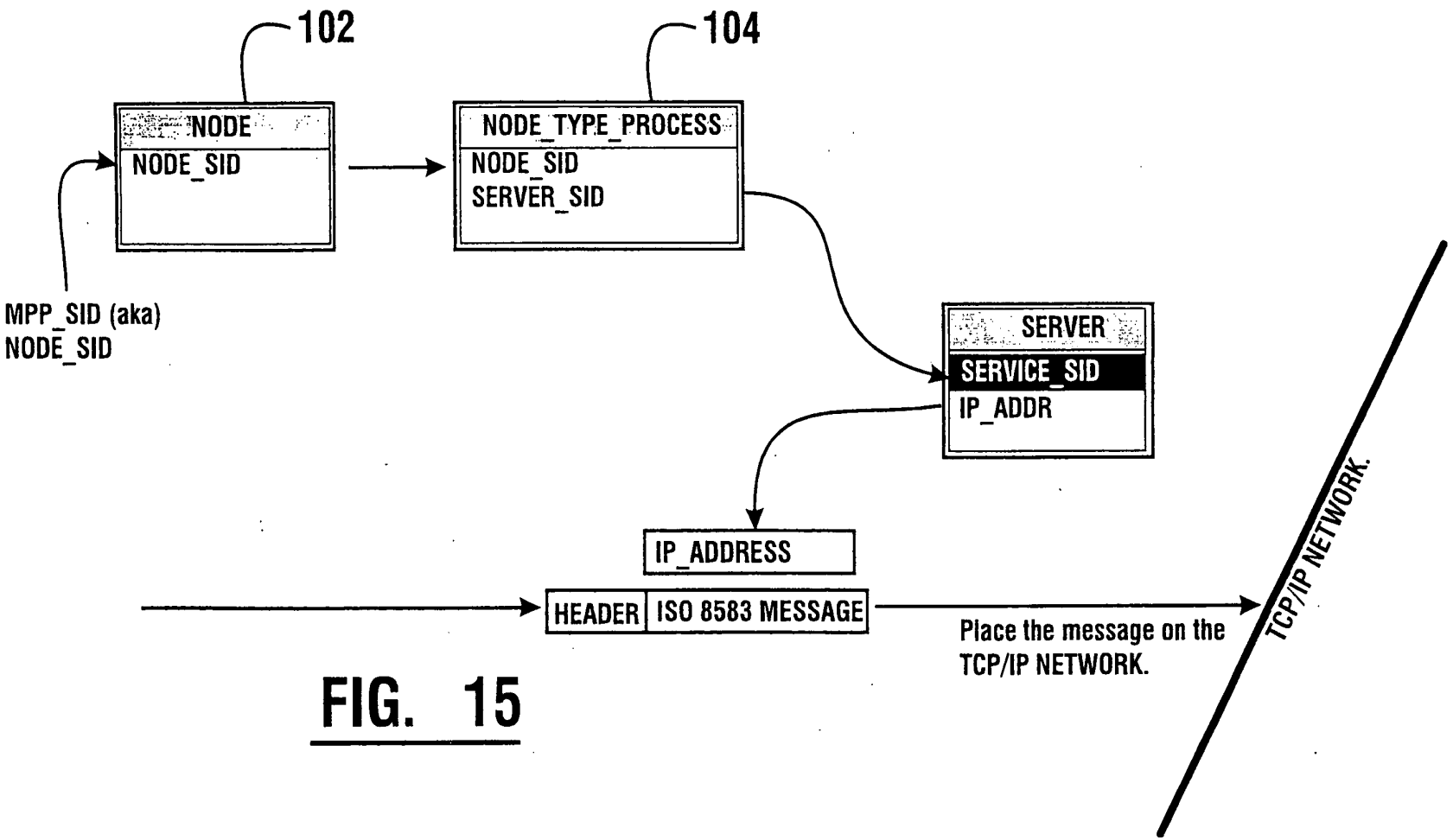

102
104
NODE
NODE_SID
NODE_TYPE_PROCESS
NODE_SID
SERVER_SID
MPP_SID (aka)
NODE_SID
SERVER
SERVICE_SID
IP_ADDR
IP_ADDRESS
HEADER
ISO 8583 MESSAGE
Place the message on the
TCP/IP NETWORK.
TCP/IP NETWORK.

FIG. 15

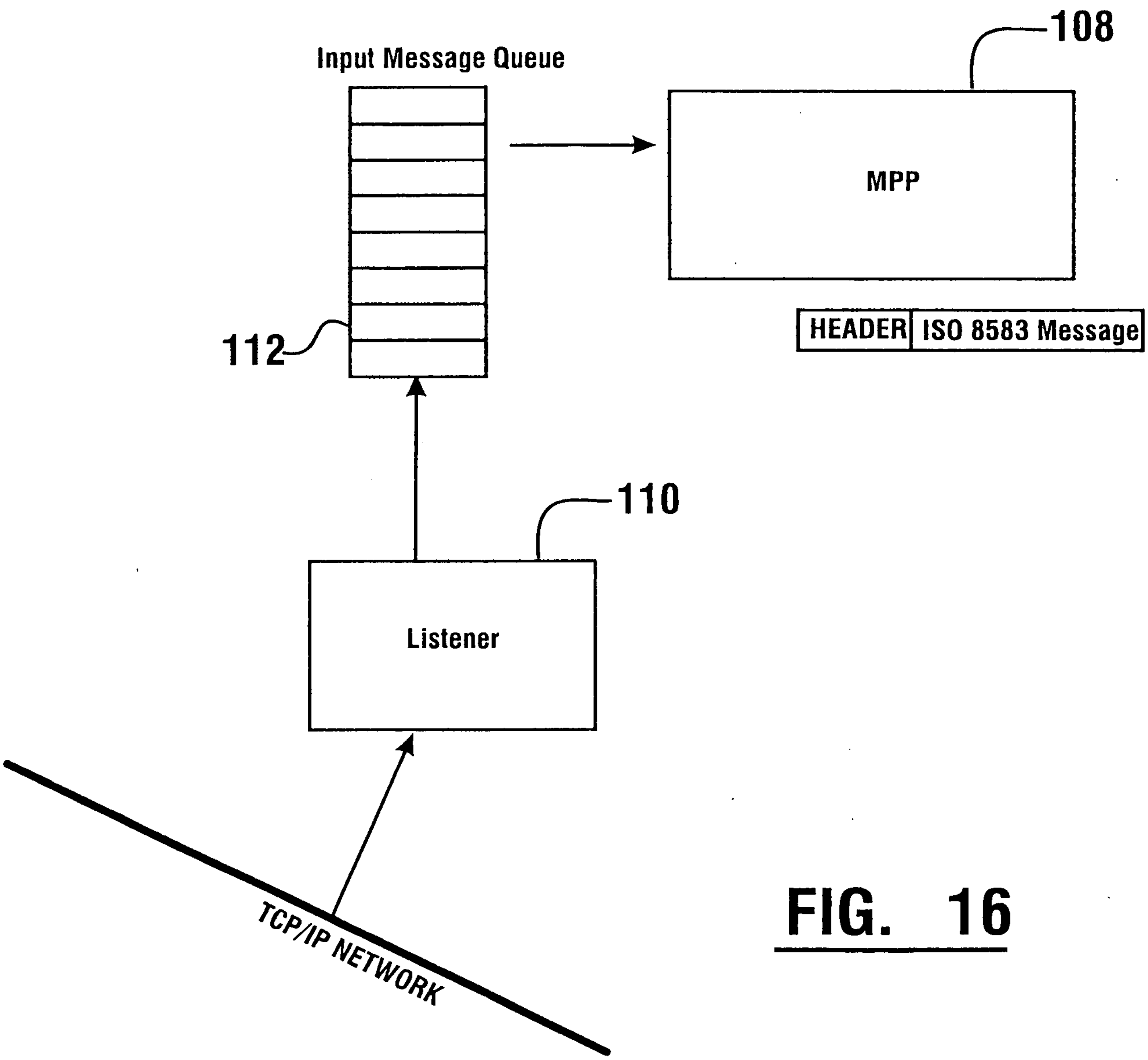


FIG. 16

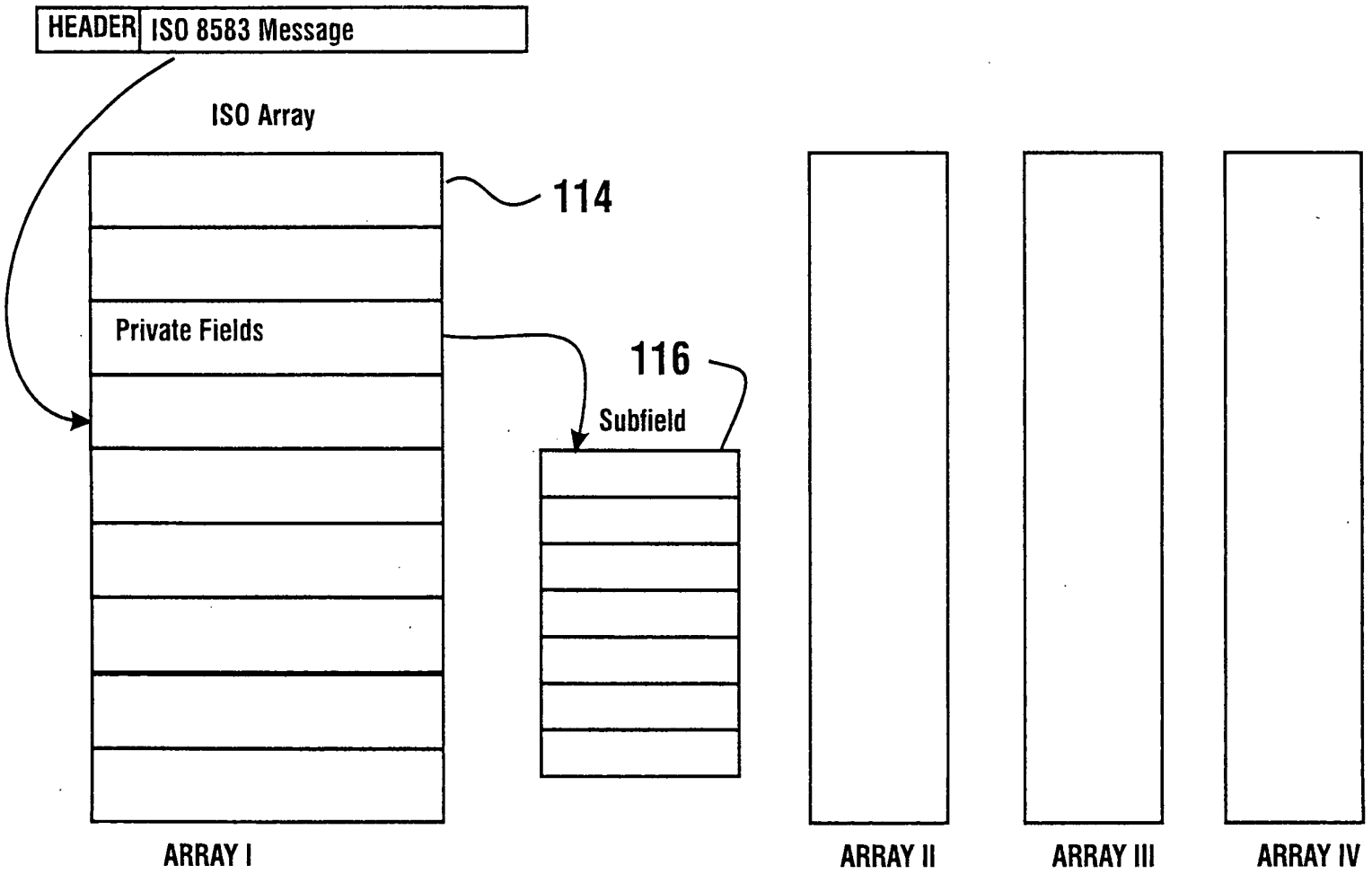


FIG. 17

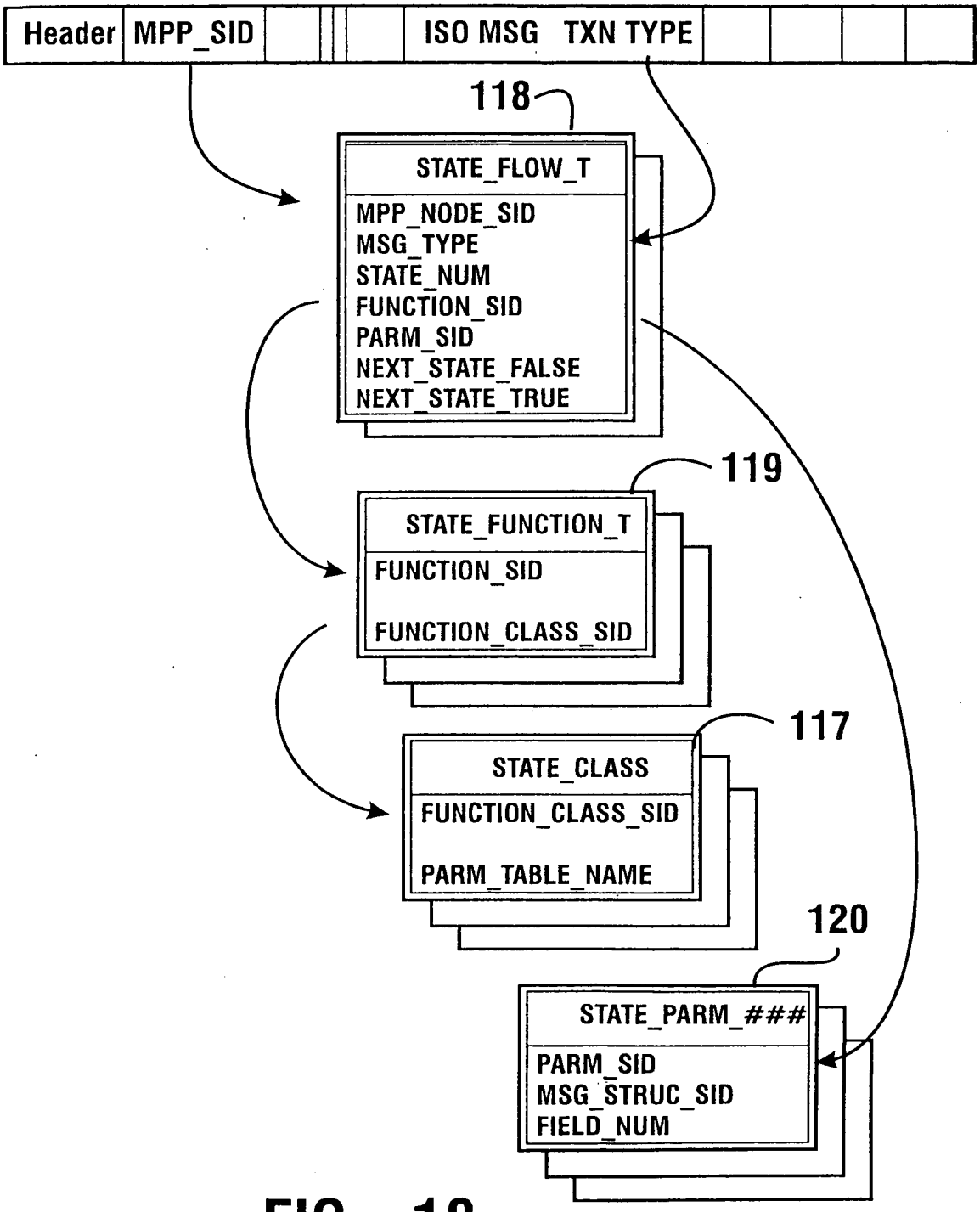

Header
MPP_SID
ISO MSG
TXN TYPE
118
STATE_FLOW_T
MPP_NODE_SID
MSG_TYPE
STATE_NUM
FUNCTION_SID
PARM_SID
NEXT_STATE_FALSE
NEXT_STATE_TRUE
119
STATE_FUNCTION_T
FUNCTION_SID
FUNCTION_CLASS_SID
117
STATE_CLASS
FUNCTION_CLASS_SID
PARM_TABLE_NAME
120
STATE_PARM_###
PARM_SID
MSG_STRUC_SID
FIELD_NUM

FIG. 18

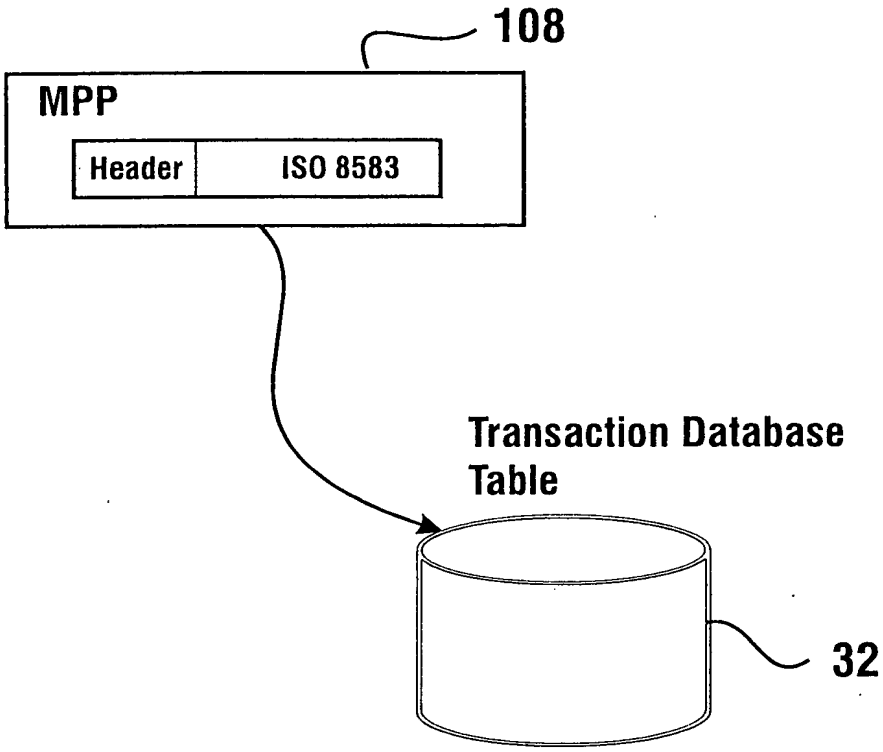


FIG. 19

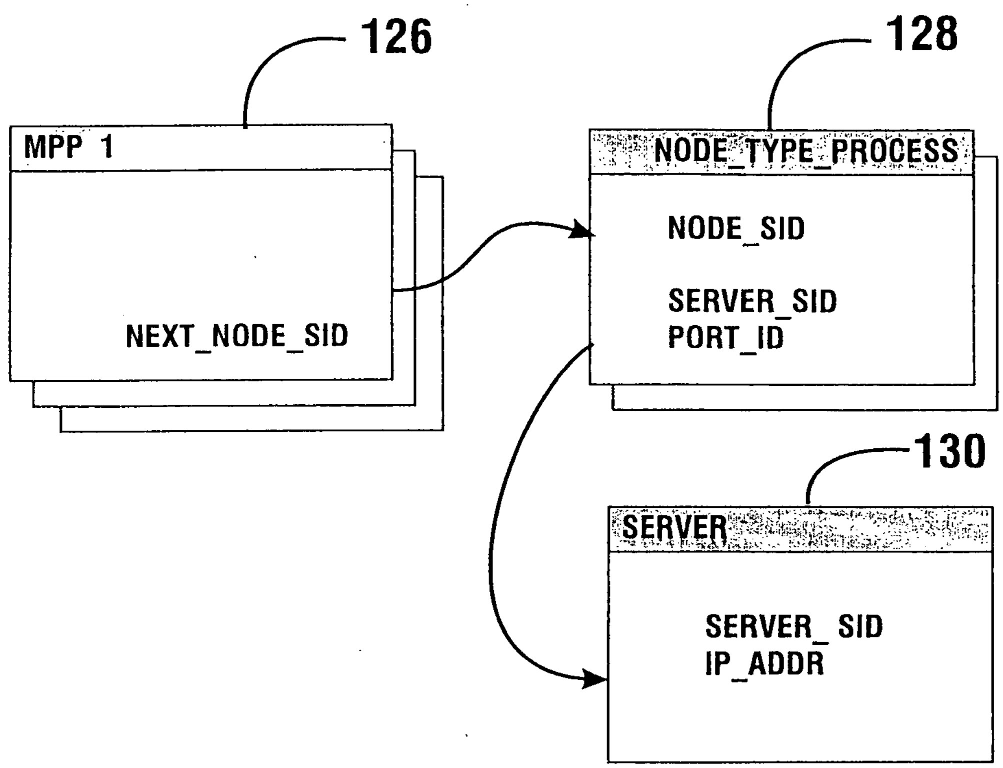


FIG. 20

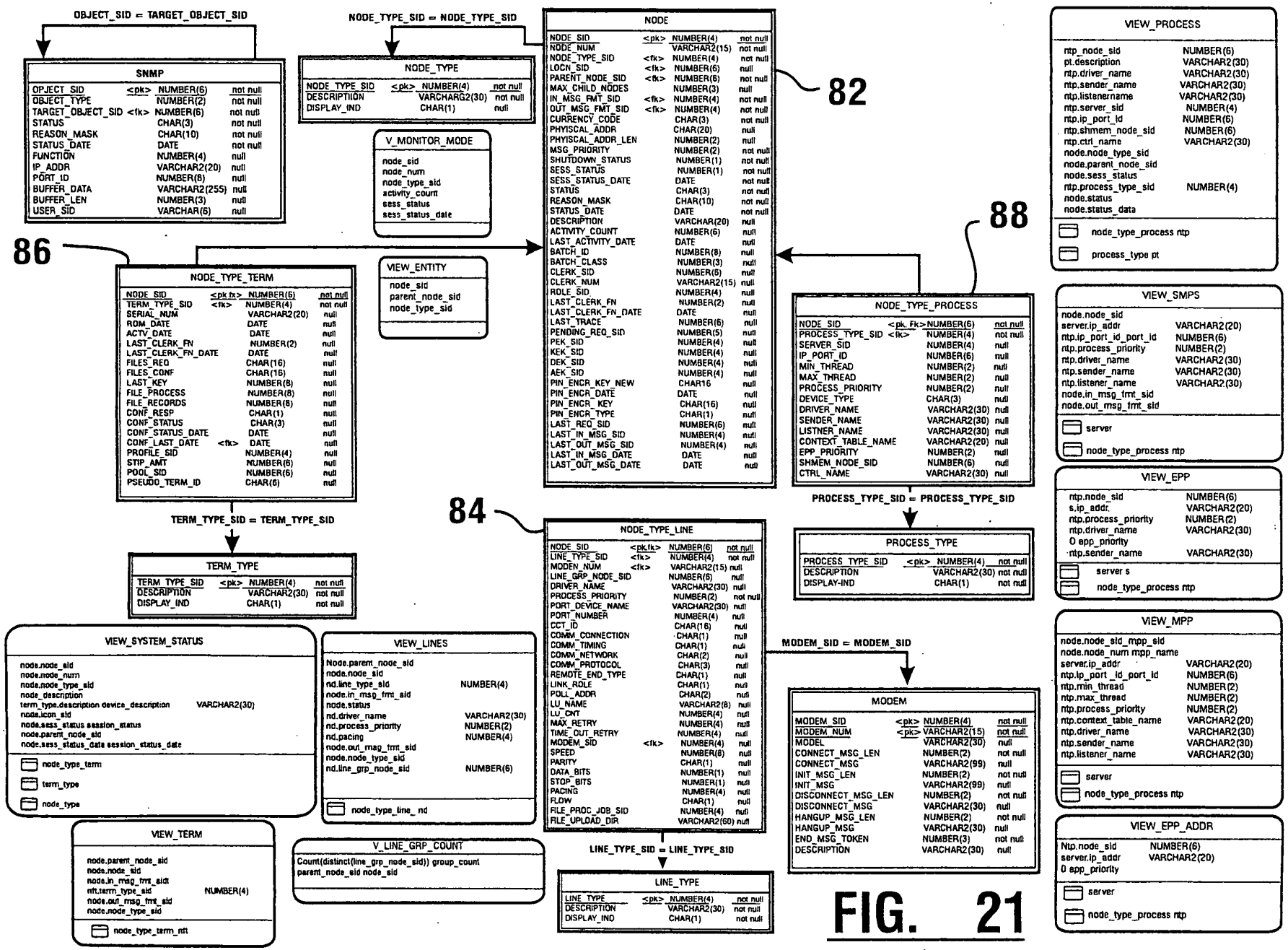

OBJECT_SID = TARGET_OBJECT_SID
NODE_TYPE_SID = NODE_TYPE_SID
SNMP
OPJECT_SID <pk> NUMBER(6) not null
OBJECT_TYPE NUMBER(2) not null
TARGET_OBJECT_SID <fk> NUMBER(6) not null
STATUS CHAR(3) not null
REASON_MASK CHAR(10) not null
STATUS_DATE DATE not null
FUNCTION NUMBER(4) null
IP_ADDR VARCHAR2(20) null
PORT_ID NUMBER(8) null
BUFFER_DATA VARCHAR2(255) null
BUFFER_LEN NUMBER(3) null
USER_SID VARCHAR(6) null
NODE_TYPE
NODE_TYPE_SID <pk> NUMBER(4) not null
DESCRIPTION VARCHARG2(30) not null
DISPLAY_IND CHAR(1) null
V_MONITOR_MODE
node_sid
node_num
node_type_sid
activity_count
sess_status
sess_status_date
NODE
NODE_SID <pk> NUMBER(4) not null
NODE_NUM VARCHAR2(15) not null
NODE_TYPE_SID <fk> NUMBER(4) not null
LOCN_SID <fk> NUMBER(6) null
PARENT_NODE_SID <fk> NUMBER(6) not null
MAX_CHILD_NODES NUMBER(3) null
IN_MSG_FMT_SID <fk> NUMBER(4) not null
OUT_MSG_FMT_SID <fk> NUMBER(4) not null
CURRENCY_CODE CHAR(3) not null
PHYISCAL_ADDR CHAR(20) null
PHYISCAL_ADDR_LEN NUMBER(2) null
MSG_PRIORITY NUMBER(2) not null
SHUTDOWN_STATUS NUMBER(1) not null
SESS_STATUS NUMBER(1) not null
SESS_STATUS_DATE DATE not null
STATUS CHAR(3) not null
REASON_MASK CHAR(10) not null
STATUS_DATE DATE not null
DESCRIPTION VARCHAR(20) null
ACTIVITY_COUNT NUMBER(6) null
LAST_ACTIVITY_DATE DATE null
BATCH_ID NUMBER(8) null
BATCH_CLASS NUMBER(3) null
CLERK_SID NUMBER(6) null
CLERK_NUM VARCHAR2(15) null
ROLE_SID NUMBER(4) null
LAST_CLERK_FN NUMBER(2) null
LAST_CLERK_FN_DATE DATE null
LAST_TRACE NUMBER(6) null
PENDING_REQ_SID NUMBER(5) null
PEK_SID NUMBER(4) null
KEK_SID NUMBER(4) null
DEK_SID NUMBER(4) null
AEK_SID NUMBER(4) null
PIN_ENCR_KEY_NEW CHAR16 null
PIN_ENCR_DATE DATE null
PIN_ENCR_KEY CHAR(16) null
PIN_ENCR_TYPE CHAR(1) null
LAST_REQ_SID NUMBER(6) null
LAST_IN_MSG_SID NUMBER(4) null
LAST_OUT_MSG_SID NUMBER(4) null
LAST_IN_MSG_DATE DATE null
LAST_OUT_MSG_DATE DATE null
82
VIEW_PROCESS
ntp_node_sid NUMBER(6)
pt.description VARCHAR2(30)
ntp.driver_name VARCHAR2(30)
ntp.sender_name VARCHAR2(30)
ntp.listenername VARCHAR2(30)
ntp.server_sid NUMBER(4)
ntp.ip_port_id NUMBER(6)
ntp.shmem_node_sid NUMBER(6)
ntp.ctrl_name VARCHAR2(30)
node.node_type_sid
node.parent_node_sid
node.sess_status
ntp.process_type_sid NUMBER(4)
node.status
node.status_data
node_type_process ntp
process_type pt
86
NODE_TYPE_TERM
NODE_SID <pk fk> NUMBER(6) not null
TERM_TYPE_SID <fk> NUMBER(4) not null
SERIAL_NUM VARCHAR2(20) null
ROM_DATE DATE null
ACTV_DATE DATE null
LAST_CLERK_FN NUMBER(2) null
LAST_CLERK_FN_DATE DATE null
FILES_REQ CHAR(16) null
FILES_CONF CHAR(16) null
LAST_KEY NUMBER(8) null
FILE_PROCESS NUMBER(8) null
FILE_RECORDS NUMBER(8) null
CONF_RESP CHAR(1) null
CONF_STATUS CHAR(3) null
CONF_STATUS_DATE DATE null
CONF_LAST_DATE <fk> DATE null
PROFILE_SID NUMBER(4) null
STIP_AMT NUMBER(6) null
POOL_SID NUMBER(6) null
PSEUDO_TERM_ID CHAR(6) null
VIEW_ENTITY
node_sid
parent_node_sid
node_type_sid
88
NODE_TYPE_PROCESS
NODE_SID <pk, Fk> NUMBER(6) not null
PROCESS_TYPE_SID <fk> NUMBER(4) not null
SERVER_SID NUMBER(4) null
IP_PORT_ID NUMBER(6) null
MIN_THREAD NUMBER(2) null
MAX_THREAD NUMBER(2) null
PROCESS_PRIORITY NUMBER(2) null
DEVICE_TYPE CHAR(3) null
DRIVER_NAME VARCHAR2(30) null
SENDER_NAME VARCHAR2(30) null
LISTNER_NAME VARCHAR2(30) null
CONTEXT_TABLE_NAME VARCHAR2(20) null
EPP_PRIORITY NUMBER(2) null
SHMEM_NODE_SID NUMBER(6) null
CTRL_NAME VARCHAR2(30) null
VIEW_SMPS
node.node_sid
server.ip_addr VARCHAR2(20)
ntp.ip_port_id_port_id NUMBER(6)
ntp.process_priority NUMBER(2)
ntp.driver_name VARCHAR2(30)
ntp.sender_name VARCHAR2(30)
ntp.listener_name VARCHAR2(30)
node.in_msg_fmt_sid
node.out_msg_fmt_sid
server
node_type_process ntp
TERM_TYPE_SID = TERM_TYPE_SID
PROCESS_TYPE_SID = PROCESS_TYPE_SID
84
NODE_TYPE_LINE
NODE_SID <pk,fk> NUMBER(6) not null
LINE_TYPE_SID <fk> NUMBER(4) not null
MODEN_NUM <fk> VARCHAR2(15) null
LINE_GRP_NODE_SID NUMBER(6) null
DRIVER_NAME VARCHAR2(30) null
PROCESS_PRIORITY NUMBER(2) not null
PORT_DEVICE_NAME VARCHAR2(30) null
PORT_NUMBER NUMBER(4) null
CCT_ID CHAR(16) null
COMM_CONNECTION CHAR(1) null
COMM_TIMING CHAR(1) null
COMM_NETWORK CHAR(2) null
COMM_PROTOCOL CHAR(3) null
REMOTE_END_TYPE CHAR(1) null
LINK_ROLE CHAR(1) null
POLL_ADDR CHAR(2) null
LU_NAME VARCHAR2(8) null
LU_CNT NUMBER(4) null
MAX_RETRY NUMBER(4) null
TIME_OUT_RETRY NUMBER(4) null
MODEM_SID <fk> NUMBER(4) null
SPEED NUMBER(8) null
PARITY CHAR(1) null
DATA_BITS NUMBER(1) null
STOP_BITS NUMBER(1) null
PACING NUMBER(4) null
FLOW CHAR(1) null
FILE_PROC_JOB_SID NUMBER(4) null
FILE_UPLOAD_DIR VARCHAR2(60) null
PROCESS_TYPE
PROCESS_TYPE_SID <pk> NUMBER(4) not null
DESCRIPTION VARCHAR2(30) not null
DISPLAY-IND CHAR(1) not null
VIEW_EPP
ntp.node_sid NUMBER(6)
s.ip_addr VARCHAR2(20)
ntp.process_priority NUMBER(2)
ntp.driver_name VARCHAR2(30)
0 epp_priority
ntp.sender_name VARCHAR2(30)
server s
node_type_process ntp
TERM_TYPE
TERM_TYPE_SID <pk> NUMBER(4) not null
DESCRIPTION VARCHAR2(30) not null
DISPLAY_IND CHAR(1) not null
MODEM_SID = MODEM_SID
VIEW_MPP
node.node_sid_mpp_sid
node.node_num mpp_name
server.ip_addr VARCHAR2(20)
ntp.ip_port_id_port_id NUMBER(6)
ntp.min_thread NUMBER(2)
ntp.max_thread NUMBER(2)
ntp.process_priority NUMBER(2)
ntp.context_table_name VARCHAR2(20)
ntp.driver_name VARCHAR2(30)
ntp.sender_name VARCHAR2(30)
ntp.listener_name VARCHAR2(30)
server
node_type_process ntp
VIEW_SYSTEM_STATUS
node.node_sid
node.node_num
node.node_type_sid
node_description
term_type.description device_description VARCHAR2(30)
node.icon_sid
node.sess_status session_status
node.parent_node_sid
node.sess_status_data session_status_date
node_type_term
term_type
node_type
VIEW_LINES
Node.parent_node_sid
node.node_sid
nd.line_type_sid NUMBER(4)
node.in_msg_fmt_sid
node.status
nd.driver_name VARCHAR2(30)
nd.process_priority NUMBER(2)
nd.pacing NUMBER(4)
node.out_msg_fmt_sid
node.node_type_sid
nd.line_grp_node_sid NUMBER(6)
node_type_line_ nd
MODEM
MODEM_SID <pk> NUMBER(4) not null
MODEM_NUM <pk> VARCHAR2(15) not null
MODEL VARCHAR2(30) null
CONNECT_MSG_LEN NUMBER(2) not null
CONNECT_MSG VARCHAR2(99) null
INIT_MSG_LEN NUMBER(2) not null
INIT_MSG VARCHAR2(99) null
DISCONNECT_MSG_LEN NUMBER(2) not null
DISCONNECT_MSG VARCHAR2(30) null
HANGUP_MSG_LEN NUMBER(2) not null
HANGUP_MSG VARCHAR2(30) null
END_MSG_TOKEN NUMBER(3) not null
DESCRIPTION VARCHAR2(30) null
VIEW_EPP_ADDR
Ntp.node_sid NUMBER(6)
server.ip_addr VARCHAR2(20)
0 epp_priority
server
node_type_process ntp
VIEW_TERM
node.parent_node_sid
node.node_sid
node.in_msg_fmt_sidt
mft.term_type_sid NUMBER(4)
node.out_msg_fmt_sid
node.node_type_sid
node_type_term_mft
V_LINE_GRP_COUNT
Count(distinct(line_grp_node_sid)) group_count
parent_node_sid node_sid
LINE_TYPE_SID = LINE_TYPE_SID
LINE_TYPE
LINE_TYPE <pk> NUMBER(4) not null
DESCRIPTION VARCHAR2(30) not null
DISPLAY_IND CHAR(1) not null

FIG. 21

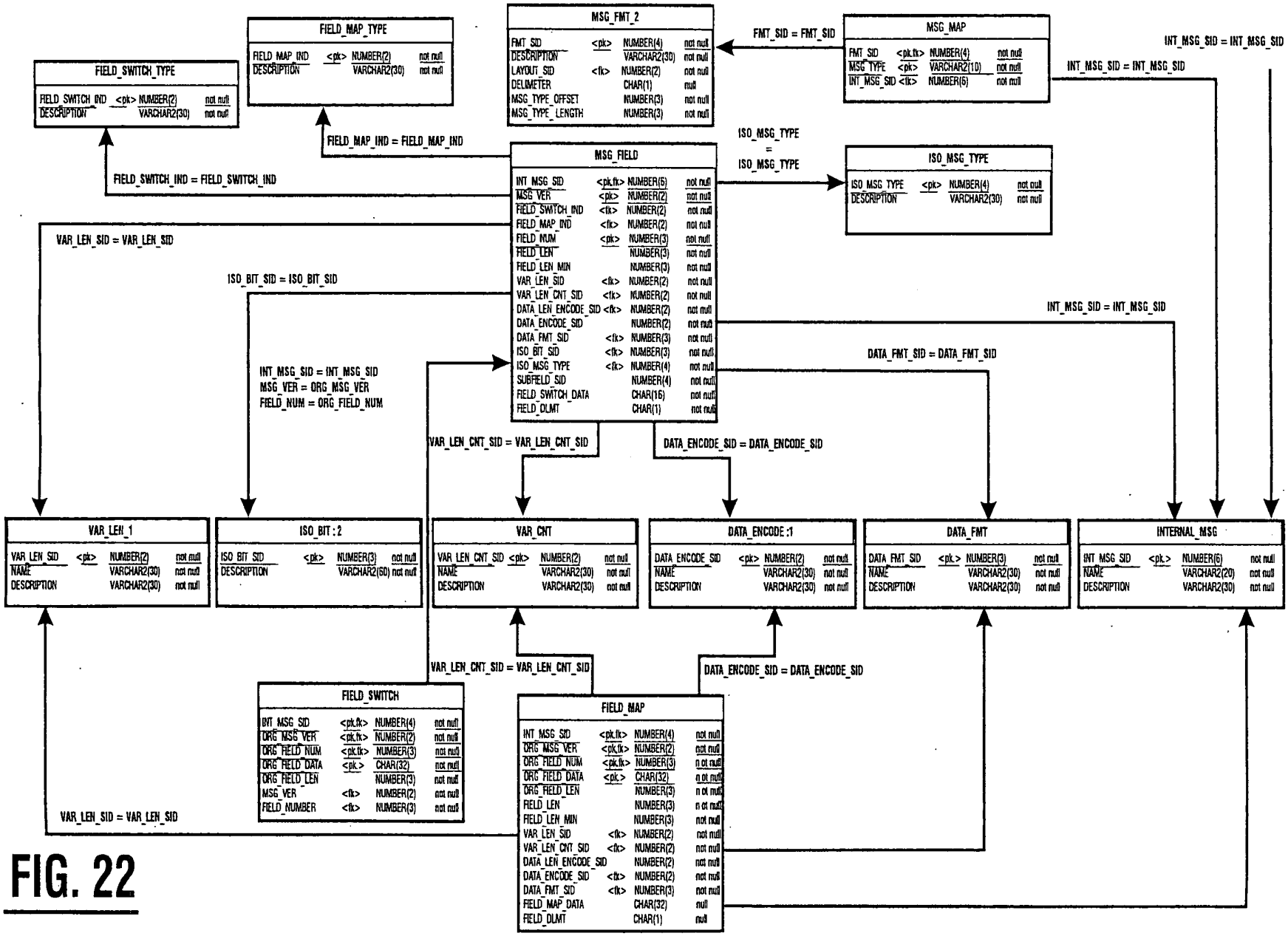

FIELD_MAP_TYPE
FIELD_MAP_IND <pk> NUMBER(2) not null
DESCRIPTION VARCHAR2(30) not null
FIELD_SWITCH_TYPE
FIELD_SWITCH_IND <pk> NUMBER(2) not null
DESCRIPTION VARCHAR2(30) not null
MSG_FMT_2
FMT_SID <pk> NUMBER(4) not null
DESCRIPTION VARCHAR2(30) not null
LAYOUT_SID <fk> NUMBER(2) not null
DELIMETER CHAR(1) null
MSG_TYPE_OFFSET NUMBER(3) not null
MSG_TYPE_LENGTH NUMBER(3) not null
MSG_MAP
FMT_SID <pk,fk> NUMBER(4) not null
MSG_TYPE <pk> VARCHAR2(10) not null
INT_MSG_SID <fk> NUMBER(6) not null
ISO_MSG_TYPE
ISO_MSG_TYPE <pk> NUMBER(4) not null
DESCRIPTION VARCHAR2(30) not null
MSG_FIELD
INT_MSG_SID <pk,fk> NUMBER(6) not null
MSG_VER <pk> NUMBER(2) not null
FIELD_SWITCH_IND <fk> NUMBER(2) not null
FIELD_MAP_IND <fk> NUMBER(2) not null
FIELD_NUM <pk> NUMBER(3) not null
FIELD_LEN NUMBER(3) not null
FIELD_LEN_MIN NUMBER(3) not null
VAR_LEN_SID <fk> NUMBER(2) not null
VAR_LEN_CNT_SID <fk> NUMBER(2) not null
DATA_LEN_ENCODE_SID <fk> NUMBER(2) not null
DATA_ENCODE_SID NUMBER(2) not null
DATA_FMT_SID <fk> NUMBER(3) not null
ISO_BIT_SID <fk> NUMBER(3) not null
ISO_MSG_TYPE <fk> NUMBER(4) not null
SUBFIELD_SID NUMBER(4) not null
FIELD_SWITCH_DATA CHAR(16) not null
FIELD_DLMT CHAR(1) not null
VAR_LEN_1
VAR_LEN_SID <pk> NUMBER(2) not null
NAME VARCHAR2(30) not null
DESCRIPTION VARCHAR2(30) not null
ISO_BIT:2
ISO_BIT_SID <pk> NUMBER(3) not null
DESCRIPTION VARCHAR2(60) not null
VAR_CNT
VAR_LEN_CNT_SID <pk> NUMBER(2) not null
NAME VARCHAR2(30) not null
DESCRIPTION VARCHAR2(30) not null
DATA_ENCODE:1
DATA_ENCODE_SID <pk> NUMBER(2) not null
NAME VARCHAR2(30) not null
DESCRIPTION VARCHAR2(30) not null
DATA_FMT
DATA_FMT_SID <pk> NUMBER(3) not null
NAME VARCHAR2(30) not null
DESCRIPTION VARCHAR2(30) not null
INTERNAL_MSG
INT_MSG_SID <pk> NUMBER(6) not null
NAME VARCHAR2(20) not null
DESCRIPTION VARCHAR2(30) not null
FIELD_SWITCH
INT_MSG_SID <pk,fk> NUMBER(4) not null
ORG_MSG_VER <pk,fk> NUMBER(2) not null
ORG_FIELD_NUM <pk,fk> NUMBER(3) not null
ORG_FIELD_DATA <pk> CHAR(32) not null
ORG_FIELD_LEN NUMBER(3) not null
MSG_VER <fk> NUMBER(2) not null
FIELD_NUMBER <fk> NUMBER(3) not null
FIELD_MAP
INT_MSG_SID <pk,fk> NUMBER(4) not null
ORG_MSG_VER <pk,fk> NUMBER(2) not null
ORG_FIELD_NUM <pk,fk> NUMBER(3) not null
ORG_FIELD_DATA <pk> CHAR(32) not null
ORG_FIELD_LEN NUMBER(3) not null
FIELD_LEN NUMBER(3) not null
FIELD_LEN_MIN NUMBER(3) not null
VAR_LEN_SID <fk> NUMBER(2) not null
VAR_LEN_CNT_SID <fk> NUMBER(2) not null
DATA_LEN_ENCODE_SID NUMBER(2) not null
DATA_ENCODE_SID <fk> NUMBER(2) not null
DATA_FMT_SID <fk> NUMBER(3) not null
FIELD_MAP_DATA CHAR(32) null
FIELD_DLMT CHAR(1) null
FIELD_MAP_IND = FIELD_MAP_IND
FIELD_SWITCH_IND = FIELD_SWITCH_IND
FMT_SID = FMT_SID
INT_MSG_SID = INT_MSG_SID
INT_MSG_SID = INT_MSG_SID
ISO_MSG_TYPE = ISO_MSG_TYPE
VAR_LEN_SID = VAR_LEN_SID
ISO_BIT_SID = ISO_BIT_SID
INT_MSG_SID = INT_MSG_SID
INT_MSG_SID = INT_MSG_SID
MSG_VER = ORG_MSG_VER
FIELD_NUM = ORG_FIELD_NUM
DATA_FMT_SID = DATA_FMT_SID
VAR_LEN_CNT_SID = VAR_LEN_CNT_SID
DATA_ENCODE_SID = DATA_ENCODE_SID
VAR_LEN_CNT_SID = VAR_LEN_CNT_SID
DATA_ENCODE_SID = DATA_ENCODE_SID
VAR_LEN_SID = VAR_LEN_SID

FIG. 22

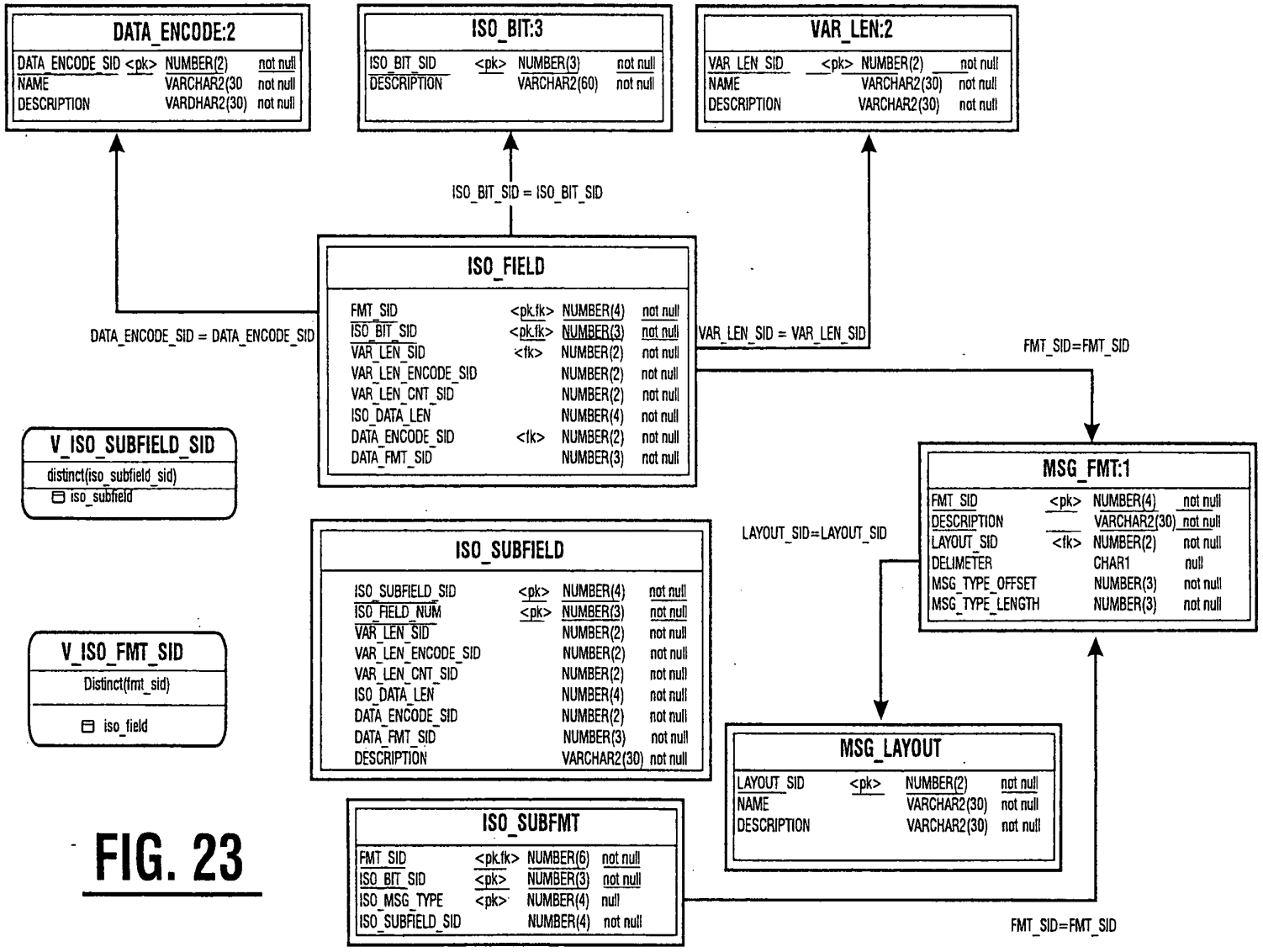


FIG. 23

EXTERNAL_HOST

HOST_SID	<pk>	NUMBER(6)	not null
HOST_NUM		VARCHAR2(15)	null
NAME		VARCHAR2(30)	null
ADDR		VARCHAR2(30)	null
CITY		VARCHAR2(20)	null
STATE		CHAR(2)	null
COUNTRY_CODE		CHAR(3)	null
ZIP_CODE		CHAR(9)	null
CONTACT_NAME		VARCHAR2(30)	null
TELEPHONE		VARCHAR2(16)	null
NODE_SID		NUMBER(6)	null
COMMENTS		VARCHAR2(30)	null
STATUS		CHAR(3)	null
STATUS_DATE		DATE	null

SERVER_HOST_LINK

SERVER_SID	<pk,fk>	NUMBER(6)	not null
HOST-SID	<pk,fk	NUMBER(6)	not null
PRIORITY		NUMBER(2)	null

SERVER_SID = SERVER_SID

SERVER

SERVER_SID	<pk>	NUMBER(6)	not null
NAME		VARCHAR2(20)	not null
IP_ADDR		VARCHAR2(20)	not null

COL_VALUE

TABLE_NAME	<pk>	VARCHAR2(20)	not null
COLUMN_NAME	<pk>	VARCHAR2(20)	not null
ITEM_OFFSET	<pk>	NUMBER(2)	not null
COLUMN_VALUE	<pk>	VARCHAR2(3)	not null
DESCRIPTION		VARCHAR2(30)	not null

STATUS_REASON

TABLE_NAME	<pk>	VARCHAR2(20)	not null
STATUS_VALUE	<pk>	CHAR(3)	not null
REASON_NUM	<pk>	NUMBER(2)	not null

SYSTEM_PARM

SYSTEM_PARM_SID	<pk>	NUMBER(4)	not null
PARAMETER	<pk>	VARCHAR2(10)	not null
VALUE		VARCHAR2(20)	not null
FMT		VARCHAR2(10)	not null
STATUS		CHAR(3)	not null
STATUS_DATE		DATE	not null
DESCRIPTION		VARCHAR2(30)	not null

FIG. 24

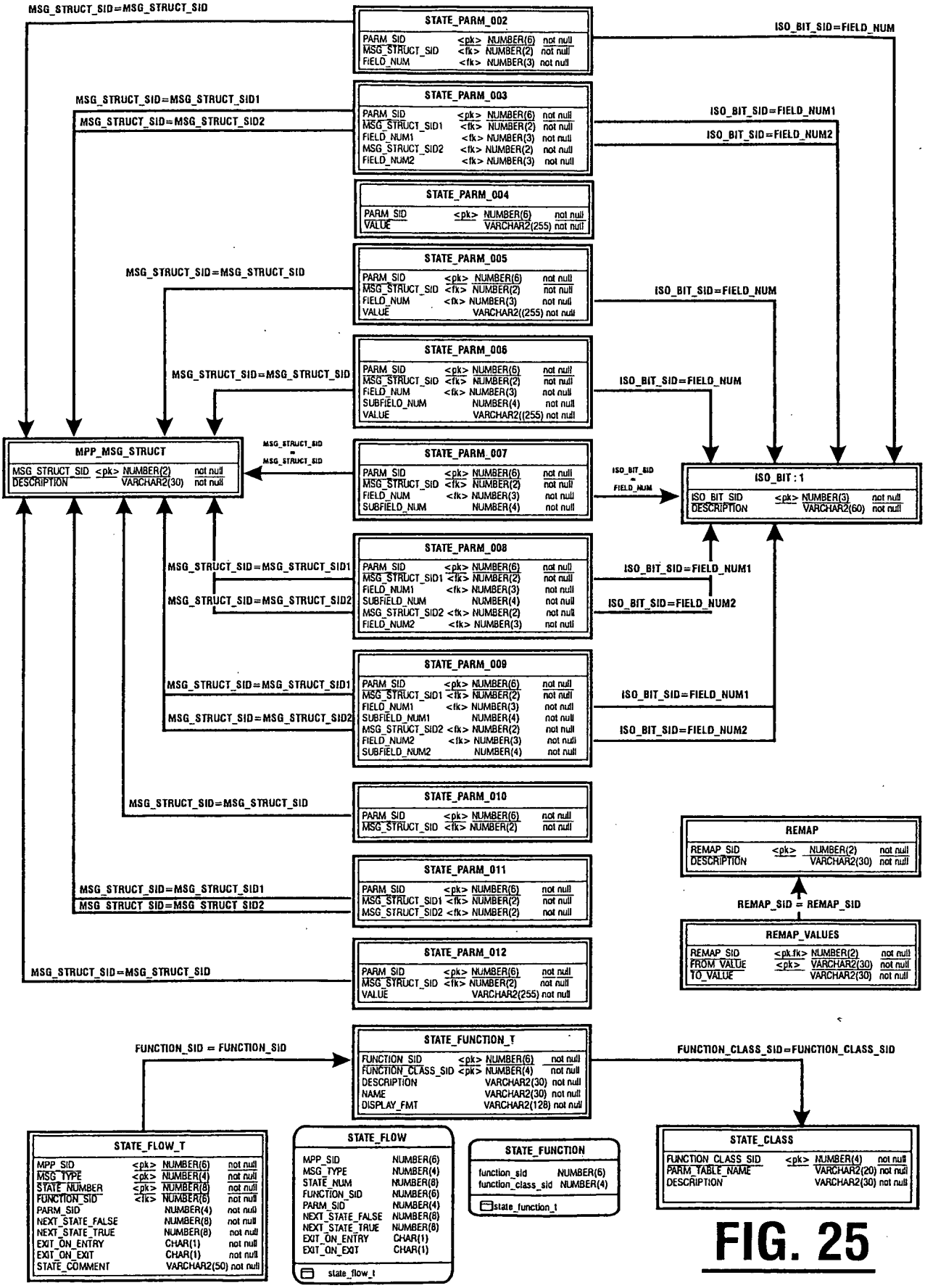

MSG_STRUCT_SID=MSG_STRUCT_SID
STATE_PARM_002
PARM_SID <pk> NUMBER(6) not null
MSG_STRUCT_SID <fk> NUMBER(2) not null
FIELD_NUM <fk> NUMBER(3) not null
ISO_BIT_SID=FIELD_NUM
MSG_STRUCT_SID=MSG_STRUCT_SID1
MSG_STRUCT_SID=MSG_STRUCT_SID2
STATE_PARM_003
PARM_SID <pk> NUMBER(6) not null
MSG_STRUCT_SID1 <fk> NUMBER(2) not null
FIELD_NUM1 <fk> NUMBER(3) not null
MSG_STRUCT_SID2 <fk> NUMBER(2) not null
FIELD_NUM2 <fk> NUMBER(3) not null
ISO_BIT_SID=FIELD_NUM1
ISO_BIT_SID=FIELD_NUM2
STATE_PARM_004
PARM_SID <pk> NUMBER(6) not null
VALUE VARCHAR2(255) not null
STATE_PARM_005
PARM_SID <pk> NUMBER(6) not null
MSG_STRUCT_SID <fk> NUMBER(2) not null
FIELD_NUM <fk> NUMBER(3) not null
VALUE VARCHAR2((255) not null
MSG_STRUCT_SID=MSG_STRUCT_SID
ISO_BIT_SID=FIELD_NUM
STATE_PARM_006
PARM_SID <pk> NUMBER(6) not null
MSG_STRUCT_SID <fk> NUMBER(2) not null
FIELD_NUM <fk> NUMBER(3) not null
SUBFIELD_NUM NUMBER(4) not null
VALUE VARCHAR2((255) not null
MSG_STRUCT_SID=MSG_STRUCT_SID
ISO_BIT_SID=FIELD_NUM
MPP_MSG_STRUCT
MSG_STRUCT_SID <pk> NUMBER(2) not null
DESCRIPTION VARCHAR2(30) not null
MSG_STRUCT_SID = MSG_STRUCT_SID
STATE_PARM_007
PARM_SID <pk> NUMBER(6) not null
MSG_STRUCT_SID <fk> NUMBER(2) not null
FIELD_NUM <fk> NUMBER(3) not null
SUBFIELD_NUM NUMBER(4) not null
ISO_BIT_SID = FIELD_NUM
ISO_BIT : 1
ISO_BIT_SID <pk> NUMBER(3) not null
DESCRIPTION VARCHAR2(60) not null
STATE_PARM_008
PARM_SID <pk> NUMBER(6) not null
MSG_STRUCT_SID1 <fk> NUMBER(2) not null
FIELD_NUM1 <fk> NUMBER(3) not null
SUBFIELD_NUM NUMBER(4) not null
MSG_STRUCT_SID2 <fk> NUMBER(2) not null
FIELD_NUM2 <fk> NUMBER(3) not null
MSG_STRUCT_SID=MSG_STRUCT_SID1
MSG_STRUCT_SID=MSG_STRUCT_SID2
ISO_BIT_SID=FIELD_NUM1
ISO_BIT_SID=FIELD_NUM2
STATE_PARM_009
PARM_SID <pk> NUMBER(6) not null
MSG_STRUCT_SID1 <fk> NUMBER(2) not null
FIELD_NUM1 <fk> NUMBER(3) not null
SUBFIELD_NUM1 NUMBER(4) not null
MSG_STRUCT_SID2 <fk> NUMBER(2) not null
FIELD_NUM2 <fk> NUMBER(3) not null
SUBFIELD_NUM2 NUMBER(4) not null
MSG_STRUCT_SID=MSG_STRUCT_SID1
MSG_STRUCT_SID=MSG_STRUCT_SID2
ISO_BIT_SID=FIELD_NUM1
ISO_BIT_SID=FIELD_NUM2
STATE_PARM_010
PARM_SID <pk> NUMBER(6) not null
MSG_STRUCT_SID <fk> NUMBER(2) not null
MSG_STRUCT_SID=MSG_STRUCT_SID
REMAP
REMAP_SID <pk> NUMBER(2) not null
DESCRIPTION VARCHAR2(30) not null
REMAP_SID = REMAP_SID
REMAP_VALUES
REMAP_SID <pk,fk> NUMBER(2) not null
FROM_VALUE <pk> VARCHAR2(30) not null
TO_VALUE VARCHAR2(30) not null
STATE_PARM_011
PARM_SID <pk> NUMBER(6) not null
MSG_STRUCT_SID1 <fk> NUMBER(2) not null
MSG_STRUCT_SID2 <fk> NUMBER(2) not null
MSG_STRUCT_SID=MSG_STRUCT_SID1
MSG_STRUCT_SID=MSG_STRUCT_SID2
STATE_PARM_012
PARM_SID <pk> NUMBER(6) not null
MSG_STRUCT_SID <fk> NUMBER(2) not null
VALUE VARCHAR2(255) not null
MSG_STRUCT_SID=MSG_STRUCT_SID
FUNCTION_SID = FUNCTION_SID
STATE_FUNCTION_T
FUNCTION_SID <pk> NUMBER(6) not null
FUNCTION_CLASS_SID <pk> NUMBER(4) not null
DESCRIPTION VARCHAR2(30) not null
NAME VARCHAR2(30) not null
DISPLAY_FMT VARCHAR2(128) not null
FUNCTION_CLASS_SID=FUNCTION_CLASS_SID
STATE_FLOW_T
MPP_SID <pk> NUMBER(6) not null
MSG_TYPE <pk> NUMBER(4) not null
STATE_NUMBER <pk> NUMBER(8) not null
FUNCTION_SID <fk> NUMBER(6) not null
PARM_SID NUMBER(4) not null
NEXT_STATE_FALSE NUMBER(8) not null
NEXT_STATE_TRUE NUMBER(8) not null
EXIT_ON_ENTRY CHAR(1) not null
EXIT_ON_EXIT CHAR(1) not null
STATE_COMMENT VARCHAR2(50) not null
STATE_FLOW
MPP_SID NUMBER(6)
MSG_TYPE NUMBER(4)
STATE_NUM NUMBER(8)
FUNCTION_SID NUMBER(6)
PARM_SID NUMBER(4)
NEXT_STATE_FALSE NUMBER(8)
NEXT_STATE_TRUE NUMBER(8)
EXIT_ON_ENTRY CHAR(1)
EXIT_ON_EXIT CHAR(1)
state_flow_t
STATE_FUNCTION
function_sid NUMBER(6)
function_class_sid NUMBER(4)
state_function_t
STATE_CLASS
FUNCTION_CLASS_SID <pk> NUMBER(4) not null
PARM_TABLE_NAME VARCHAR2(20) not null
DESCRIPTION VARCHAR2(30) not null

FIG. 25

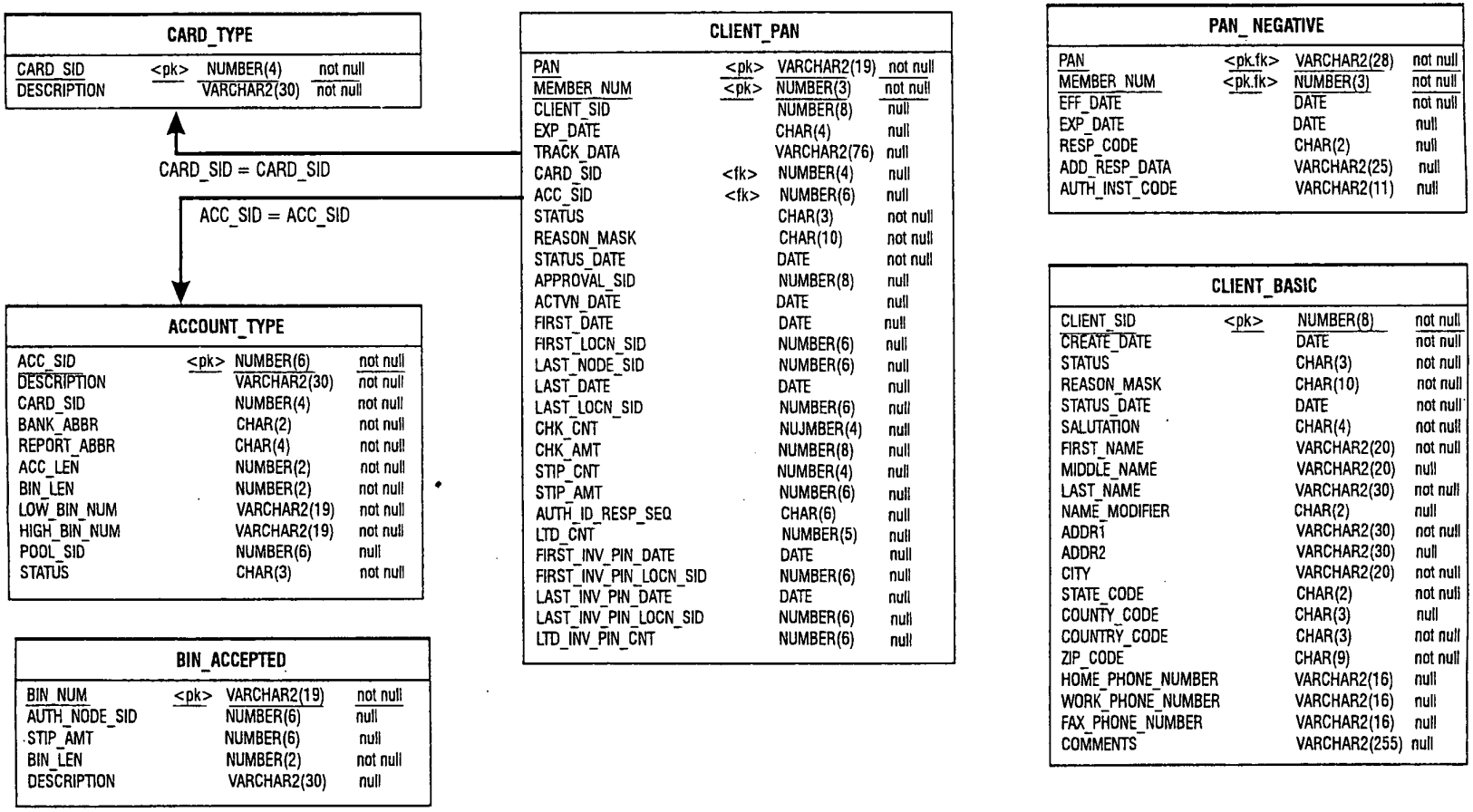


FIG. 26

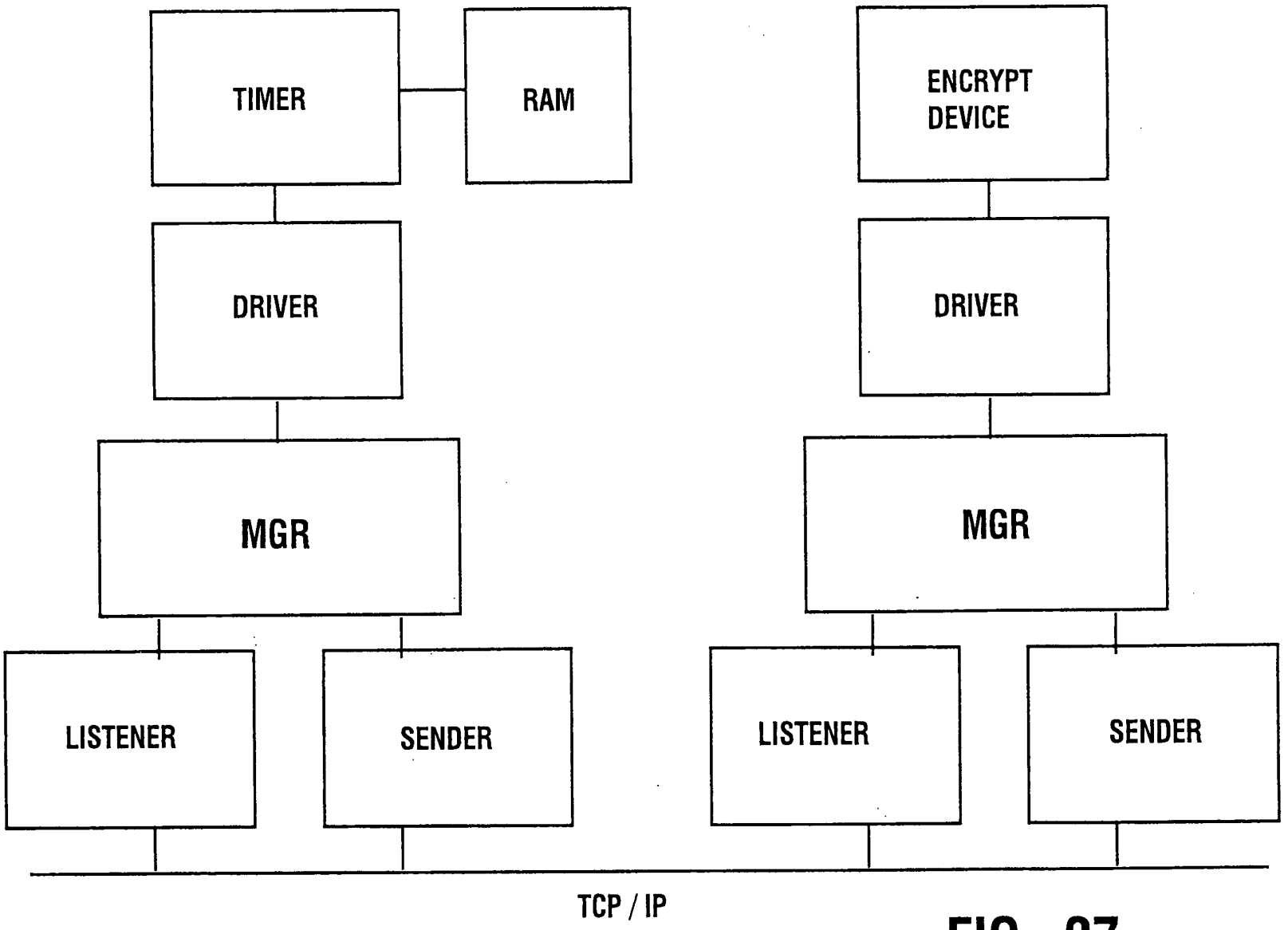


FIG. 27

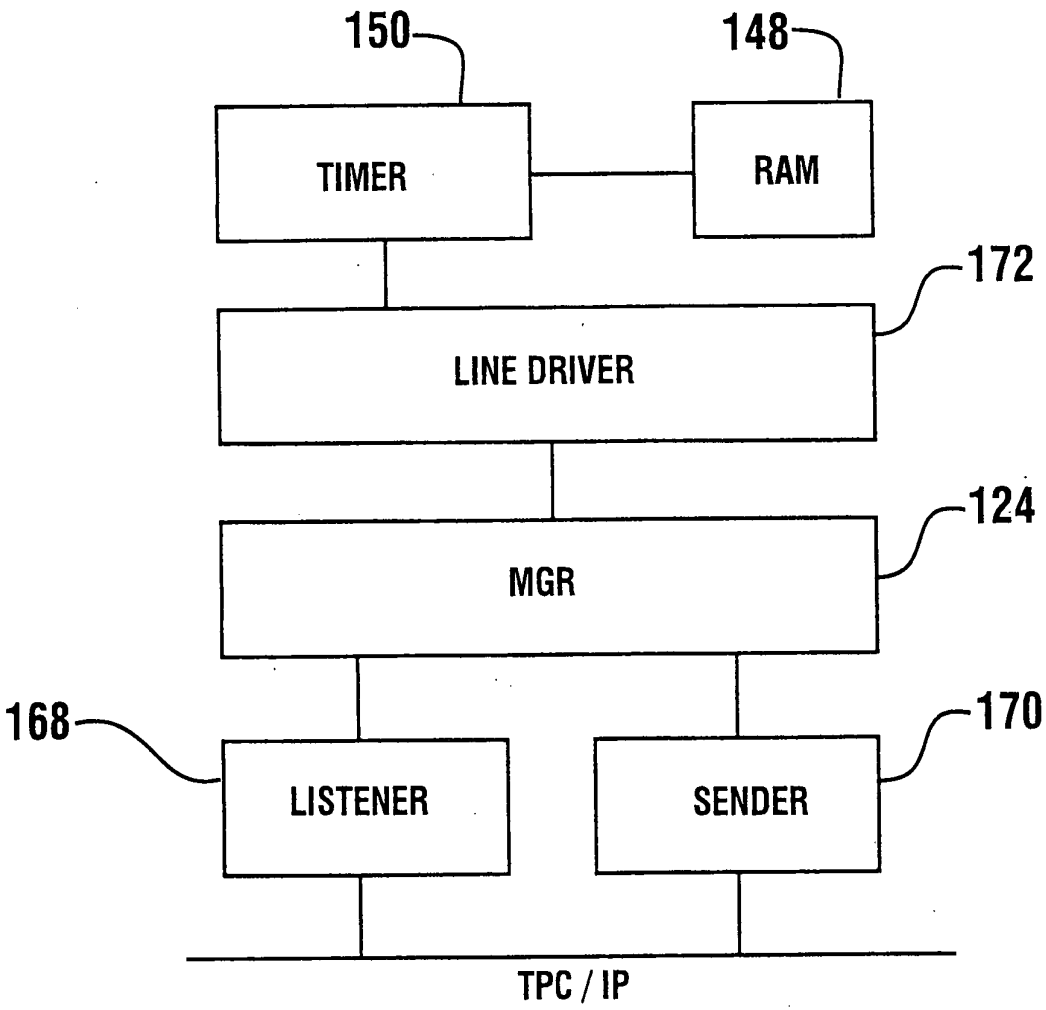


FIG. 28

MGS_ROUTER			
LINE_SID	<pk>	NUMBER(6)	not null
NODE_SID	<pk>	NUMBER(6)	not null
INT_MSG_SID	<pk.fk>	NUMBER(6)	not null
SERVICE_SID	<pk>	NUMBER(4)	not null

SERVICE_SID = SERVICE_SID

SERVICE			
SERVICE_SID	<pk>	NUMBER(4)	not null
DESCRIPTION		VARCHAR2(30)	not null

SERVICE_SID = SERVICE_SID

SERVICE PROVIDER			
SERVICE_SID	<pk.fk>	NUMBER(4)	not null
PATH_ORGINAL	<pk>	NUMBER(2)	not null
MPP_SID		NUMBER(6)	not null
PRIORITY		NUMBER(2)	not null

FIG. 29

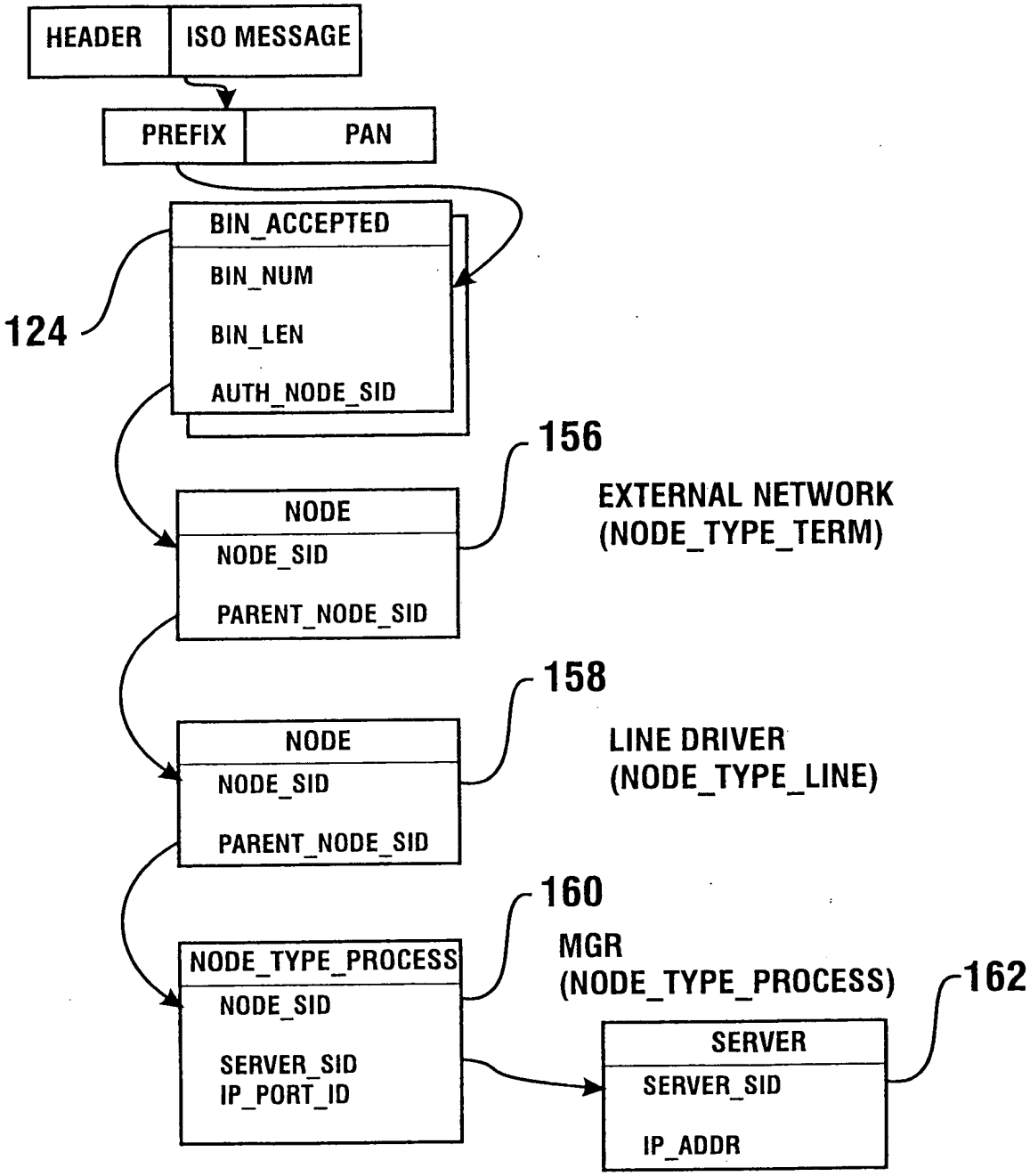


FIG. 30